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PROCEEDINGS: CONFERENCE OF THE ASSOCIATION OF STATE AND INTERSTATE WATER POLLUTION CONTROL ADMINISTRATORS HELD AT DENVER, COLORADO ON DECEMBER 9-10, 1964

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Denver, Colorado

December 9 - 10, 1964

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Registrations - Association of State & Interstate Water Pollution Control Administrators - Denver Hilton Hotel - Denver, Colorado, December 9-10, 1964

FEDERAL INSTALLATIONS
WASTE WATER DISPOSAL

Richard S. Green*

1. Background Information. In 1948, President Truman by Executive Order No. 10014, Nov. 3, 1948 (3 CFR 836, 1943-48 compilation) directed all agencies of the executive branch of the Federal Government to take such action as may be practicable, in cooperation with State and local authorities concerned with control of water pollution, to insure the disposal of sewage, garbage, refuse, and other wastes accumulated in the course or as a result of Federal activities, and industrial or munufactured food-stuffs and other products destroyed by order or under the supervision of Federal regulatory authorities, in such manner as will conform with programs formulated under State law and applicable to State agencies and the public generally for the preservation and improvement of the quality of surface and underground waters. The Executive order required the Federal agencies to conform with the State water pollution control programs applicable to State agencies and the public generally.

Congress broadened this policy when, in the 1956 Amendments to the Federal Water Pollution Control Act, it adopted the following language:

> "It is hereby declared to be the intent of the Congress that any Federal department or agency having jurisdiction over any building, installation, or other property shall, insofar as practicable and consistent with the interests of the United States and within any available appropriations, cooperate with the Department of Health, Education, and Welfare, and with any State or interstate agency or municipality having jurisdiction over waters into which any matter is discharged from such property, in preventing or controlling the pollution of such waters."

(Sec. 9 of the Federal Water Pollution Control Act, as amended by the Act of July 9, 1956 (70 Stat. 498 506; 33 U.S.C. 466h).

This directive by the Congress clearly required the Federal Government to control pollution from all Federal installations and to provide an example of leadership in preventing and abating water pollution.

Every Federal agency is required to cooperate with the Department of Health, Education, and Welfare, and with State and interstate agencies and municipalities having jurisdiction over waters into which any Federal agency discharges its wastes, for the purpose of preventing and controlling water pollution from waste discharges into surface and ground waters.

To implement this policy, President Kennedy by letter dated Decmeber 14, 1962, requested every Federal agency to make "needed improvement" in its waste water disposal practices "at the earliest possible time" in order to achieve a "fully effective program to control water pollution at all Federal installations."

*Chief, Basic Data Branch, Division Water Supply and Pollution Control, U.S. Public Health Service, Department Health, Education and Welfare, Washington, D.C.

In November 1962 the Department of Health, Education, and Welfare and the General Services Administration completed a 58-volume inventory entitled "Waste Water Disposal Practices at Federal Installations", which was transmitted to every Federal agency in December 1962. This inventory contains detailed information (as of December 31, 1960) concerning 17,799 discharge points for waterborne wastes, of Federal installations, and provides an excellent guide for further Federal action to correct deficiencies in the waste discharge practices of particular Federal installations. This inventory was undertaken at the direction of President Eisenhower by a memorandum dated May 13, 1960, to the Secretary of Health, Education, and Welfare.

In May, 1963 the House Committee on Government Operations requested 18 major Federal agencies, in cooperation with the Public Health Service, to conduct field examinations and furnish reports to the Committee on certain installations under each agency's jurisdiction. The installations selected by the Committee (totaling 1,003) were those listed in the inventory as discharging more than 3,000 gallons of untreated sewage or industrial wastes per day, or non-waterborne wastes of 200 or more persons per day, or as having received official notification of a pollution condition.

2. Federal installations are not required to give notice to State authorities of an intent to discharge wastes. However, many installations do this voluntarily.

As to Federal inter-agency cooperation, this is provided for in Section 9 of the Federal Water Pollution Control Act. We have had full cooperation from Federal agencies in the implementation of this Section. Also, the recent amendment to the Bureau of the Budget Circular No. A-11 which was issued July 16, 1964, provides:

> "Estimates for the design and construction of new Federal buildings and facilities must provide for the installation of air and water pollution control systems in accordance with instructions issued by the Public Health Service. In case the instructions are not available at the time the budget estimates are being prepared, or if they are not applicable to certain types of construction, consultation should be undertaken with the Public Health Service".

3. There is no requirement that Federal installations monitoring the quality of water wastes report to State authorities the results of the monitoring program. Some Federal installations do this and some do not. No information is available on what installations report to the States on waste disposal. If they do not do so, the Public Health Service has information as to why they don't.

It would seem that this is the same kind of question which can be asked as to whether or not industries which monitor their wastes are required to submit reports to the States.

4. The Congress and the White House have acted to require recalcitrant Federal agencies to comply with recommendations of the States and/or the Public Health Service. An example of Congressional action is attached. This is the 21st Report of the Committee on Government Operations covering disposal of waste at Federal installations, House Report No. 1636, 88th Congress, Second Session. The Committee on Page 12 of the Report requested the agencies to report positive action in pollution abatement. The recent issuance of the amendment to the Bureau of the Budget, Circular A-11, clearly indicates White House policy that agencies must act to correct pollution and that funds for waste treatment works must be specifically earmarked.

FEDERAL-STATE RELATIONSHIPS CONCERNING FEDERAL WASTE DISPOSAL INSTALLATIONS

Robert M. Brown*

Maryland is one of the smallest states (only seven are smaller in area). Due to its proximity to Washington, however, it has attracted many Federal agencies to locations within its borders. Some major installations, such as the Naval Academy which is connected to the Annapolis sewerage system and the Social Security complex and other large Federal buildings located in the Baltimore and Washington Metropolitan areas and receiving adequate sewerage service from those cities, create no problem. Usually in the initial stages, arrangements are made between the Federal government and the local jurisdictions without need for the State to become involved.

But more than 35 separate sewage treatment facilities have been constructed to serve government agencies ranging from Nike sites to the two treatment plant installations serving Fort Meade and the National Security Administration. This does not include the many minor installations serving post offices or the branch offices of the many Federal agencies located in areas where a public sewerage system is not available to provide service.

The relationship between Federal and State agencies has generally been very good. Wherever possible connections have been made to existing sewerage systems where adequate treatment can be secured. This has been accomplished in some instances by the extension of the existing gravity system and in others by pumping sewage into existing municipal facilities. When this is not possible and it is necessary to provide an independent system, the Federal agency has submitted plans for our review and approval. Our suggestions for revisions in the plans have been given favorable consideration and on many occasions alterations made to comply with our recommendations. These matters have always been handled in an atmosphere of agreement and understanding, leaving nothing to be desired as far as our relationship is concerned.

One problem, created years ago, that caused much concern was the construction of veterans hospitals in areas where community sewerage systems were not available and where no waste treatment facilities were provided. Two of the major offenders in this category have recently concluded formal agreemtnts which will enable them to eliminate the discharge of inadequately treated raw sewage and to pump all wastes into the nearby municipal system. Even under these circumstances our relationships were good. The availability of the municipal system always seemed imminent, so even though the Federal agency was willing to provide a separate facility, action was delayed many times awaiting the better solution. We did not condone, but we could not condemn, when each year we were sure the corrections would be provided next year.

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* Chief, Bureau of Environmental Hygiene, State of Maryland Department of Health, 301 W. Preston Street, Baltimore, Md.

An example of cooperation and good relationship occurred recently. One of our larger military installations which provides treatment for its own wastes has agreed to permit the creation of a point of treated sewage discharge into a stream on government property. This enabled the county agency making the installation to save considerable money by reducing the length of outfall sewer required. The only other body of water available, without the expensive outfall, is used extensively for recreation purposes and could not be used for the assimilation of sewage. In this instance the State would have required the local agency to provide a long pipeline, installed under adverse conditions, if the Federal government had not been willing to allow the use of its property.

One area in which a more cooperative arrangement would be helpful, but seems difficult of accomplishment, would be in the provision of sewerage service to developments adjacent to new or expanding Federal installations. Generally, the construction of a new Federal building, or the enlargement of an existing agency, creates a terrific impact on the surrounding area. New housing and commercial areas create the need for sewerage during the period when there is insufficient development to support a public system. By the time the growth justifies adequate public facilities the area is covered with septic tanks. These areas are then difficult to sewer because many agencies require a petition for service before they can act. As only a small percentage of the septic systems are failing at any given time, petitions for service are seldom obtainable.

In an effort to minimize the number of treatment facilities and to provide for adequate operation and maintenance, in many instances it would be advantageous to arrange for a joint venture between the Federal Government and the local agency authorized to provide sewerage service. Whenever the Federal installation can be served by a local sewerage system the joint venture system works; but when treatment facilities are Federally owned and operated, the areas adjacent to the Federal installation are generally refused permission to connect. As there are a few exceptions to this rule, it seems that the opinion of the gentleman in charge, particularly at military installations, is the deciding factor concerning acceptance or rejection of an application for a cooperative venture. Unfortunately, with the frequent changes in administration at these Federal sites, we sometimes have an on-again, off-again negotiation each time a new man takes over. One administrator agrees to cooperate but, before the red tape can be unknotted and formal agreements reached, he is replaced and the second administrator opposes the joint venture. So it dies. If it is permissible in some instances, it would seem possible to establish a policy whereby satisfactory arrangements could be made for a cooperative effort when the local agency is willing and anxious to negotiate.

Another minor irritation develops when the armed forces anchor a ship in our tidal waters and use it to accommodate a large number of men without making any provision for the treatment of wastes originating on board. As this may be a problem of short duration or may extend

over many months and, as it is difficult to ascertain in advance the length of time involved, usually no attempt is made by the Federal government to eliminate pollution created under these conditions. When local agencies or the State try to secure compliance with abatement regulations, the time lag between notification and compliance is so long that the need for the ship in the area passes; it leaves and the problem goes too. But this does not improve conditions during the year or more that the raw sewage was being discharged.

In summation, we would repeat that generally our relationship with the Federal authorities is very good but there are a few areas in which the relationship could be improved along with an improvement in waste disposal procedures.

FEDERAL-STATE RELATIONSHIPS IN REGULATING WASTE DISCHARGES FROM FEDERAL INSTALLATIONS

David F. Smallhorst*

Summary of extemporaneous remarks.

Mr. Smallhorst gave a brief explanation of the new water pollution control program in Texas wherein a permit system is required for all wastes discharged to the surface of the ground. This permit to be issued by the newly created Texas Water Pollution Control Board and the conditions of the permit to specify both the volume and the quality of the permitted waste discharge. He further stated that they have been operating under this new law for only about two and one-half years.

With regard to the Federal installations in Texas, it was stated that according to records available, there were about 196 Federal installations involving some 16 Federal Agencies.

Mr. Smallhorst stated that he was making no criticism of lack of cooperation as far as the local-Federal installation people working with the Water Pollution Control Board but there seemed to be a need to establish more definite channels of official communications between the State and Federal Agencies when some official need arises. It was stated that as far as Texas was concerned, there seemed to be no reason why the State should not deal with a Federal establishment in much the same fashion as it deals with a municipality or an industry--this was in reference to Mr. Dappert's opening remarks.

Referring to the permit issuing system, Smallhorst said that he had experienced three distinct attitudes on the part of various Federal Agencies with regard to the necessity of obtaining a permit from the State. One such attitude was that of complete cooperation, while the second attitude was one of cooperation with the State to the extent of filling out the application for a permit but stating in the letter of transmittal that because this is a Federal establishment, there was no need for the State to issue them a permit. The third attitude was one that since this is a Federal establishment, they did not need a permit and, therefore, would not even go through the formality of applying for one.

Smallhorst then asked for discussion of this matter from the group in order to determine the attitudes and policies being followed by other states along these lines.

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* Executive Secretary, Texas Water Pollution Control Board, Austin, Texas

Mr. T.J. Powers* made a plea for the State and Interstate Water Pollution Control Administrators to prepare a Nationwide report on the progress of industrial water pollution abatement. He stated this would be a useful report for presentation to Congressional committees and conservation groups.

*Industrial Program Advisor, Division of Water Supply and Pollution Control, U.S. Public Health Service, Department of Health, Education, and Welfare, Washington, D.C.

STAFFING AND BUDGETARY GUIDELINES FOR STATE WATER POLLUTION CONTROL AGENCIES

Richard A. Pavia*

In the course of this survey which brought me in contact with State Administrators and their Staffs in 13 states, Regional Program Directors at the ten regional offices and various other Federal and State personnel, I concluded that a number of problems which are non-economic in nature are common to most states. For this reason, I would like to comment relative to these problems even though they are beyond the scope of the report.

LAW

Since the authorization for this activity at the state level results from specific state statutes, it follows that the law under which a water pollution control agency operates must be adequate for this responsibility. As of this time, only 37 states have a law which is essentially equal to the 1950 U.S. Public Health Service Model Law. The others are currently operating under statutes less than adequate. Obviously, if the Law is insufficient, merely increasing an agency's budget will not achieve the desired result. Thus, corrective efforts should begin at this point.

The law governing water pollution control should be developed in its broadest context, namely prevention of water pollution through proper over-all water resources management. Within this reference, the term "pollution" should be defined broadly enough so as to encompass all known situations.

All industrial establishments requesting authorization to operate a new or expanded facility should be required to submit sufficient information and data to the State prior to the issuance of a permit. In addition, ways and means for handling industrial establishments currently operating under the protection of "Grandfather" type provisions should be developed.

In this context, it should be noted that an adequate law should provide the State with the authority to require mandatory licensing of treatment plant operators for both municipal and industrial facilities.

ORGANIZATION AND FUNCTIONS

The ability of an agency to carry out assigned responsibilities is very much dependent upon an organizational structure capable of performance under clearly defined administrative direction. In some instances, state water pollution control agencies are forced to operate in a climate where administrative authority and responsibility are improperly defined.

*Supplementary Remarks made by Richard A. Pavia representing Public Administrative Service

None of the existing State organizational structures are clearly superior to all others so the issue must rest on the clear delineation of authority and responsibility for all parties, whatever the over-all organizational structure.

On the strength of discussions resulting from this survey, it was noted that in general, formal comprehensive planning is a neglected activity. Since one of the state's primary responsibilities is to provide a long range comprehensive State plan and program for the control and abatement of water pollution, formal attention to the planning function is a must.

Similarly, the need to keep the public and interested groups informed about water pollution control problems and accomplishments is all too often neglected. This could be corrected by establishing a formal public information capability.

In the sensitive but important area of state enforcement it must be stated that insufficient attention is currently being directed to this responsibility. There are a number of reasons for this situation. Generally, state water pollution control agencies or health departments are dependent upon the Attorney General's Office for legal assistance. In many cases this arrangement has proved unsatisfactory. However, legal services are provided; whether by direct employment of legal counsel, by direct assignment of an attorney by the Attorney General, or by access to legal counsel on a retainer basis; the important consideration is that adequate service by experienced legal counselors be readily available. Relative to the use of legal enforcement it can be stated that voluntary compliance is always best providing unreasonable or unnecessary time delays do not result. For this reason it is suggested that a standard procedure for enforcement be developed by the states, such that a series of well-defined administrative steps are established along with an acceptable time schedule for their sequential implementation. In this way all parties, including violators, would know in advance what actions will be taken and when. Such a procedure retains the advantage of persuasion and voluntary compliance with the added safeguard that shou'd legal enforcement be required, no time need be lost.

To assist in activities which are primarily local in character, State water pollution control agencies would do well to encourage the development of active county and municipal capabilities to support state efforts at the local level.

PERSONNEL ADMINISTRATION

Perhaps the most important element in this functional area is the need for a realistic Classification and Compensation Plan. If classifications and prescribed compensation are unrealistic and too low to meet existing competition, the obvious results are high staff turnover, permanent position vacancies, and the inability to recruit qualified professional and other personnel to cover expansion, or normal attrition losses. Thus, again it may be said

that merely increasing an agency's budget without reassessment of the adequacy of the Classification and Compensation Plan will not achieve the desired result. A majority of the States visited on this survey complained of deficiencies in this area. Most state administrators classified this as one of their most pressing problems. Since state agencies must compete against other states and federal agencies as well as private industry for a rather limited supply of qualified professional personnel, it folbws that the success or failure of a state's efforts may depend heavily upon the adequacy of its Classification and Compensation Plan.

Because of existing shortages for professionally trained sanitary engineers, chemists, biologists, and other necessary classes of personnel, better use could be made of existing personnel if adequate support personnel are provided. In this regard it is recommended that a technical classification below that of the professional grade be established so as to eliminate or reduce the amount of time a trained professional need expend on subprofessional activities. This classification would serve several useful purposes: improve professional morale, afford better utilization of scarce talent, and offer opportunity for willing and able non-professionals to upgrade themselves.

Another weakness apparent in many states was the lack of adequate means for recruiting professional personnel.

INDUSTRIAL INVENTORY

Since the industrial base of the United States is expanding at a rapid rate, yielding problems of high industrial concentration and development and discharge of exotic waste products, future control and abatement of these problems is heavily dependent upon the need for an up-to-date comprehensive inventory of industries. During the survey it was very obvious that many states lacked this type of information. Because of the importance of this data and the difficulty and time required to assemble such an inventory, state agencies would do well to embark on this task at an early time.

SPECIAL PROBLEMS

Problems such as acid mine drainage, oil field brine, paper and pulp wastes, etc., are not common to a majority of the states but each state has some unsolved problems. It is therefore recommended that individual state agencies annually allocate some resources to the solution of these special problems making use of federal assistance (Federal Laboratory System now under development) whenever such is required and available.

CONCLUSION

As population increases and industry expands, pollution of the nation's streams, bodies of water, and shorelines will increase unless effective steps are taken. The supply of fresh water, which

may have seemed inexhaustible at one time, is being reduced by pollution to the point where demand is beginning to exceed the available supply.

The guidelines presented in this report are just that. However, it is intended that these staffing and budgetary guidelines serve to encourage both state budget directors and legislatures to reassess the importance of their water pollution control programs with an eye toward adjusting the agency's budget at least in line with the suggested minimums and preferably to the level of desired standards. The shortage of technical personnel may pose staffing problems even though state legislatures appropriate the funds necessary to employ them.

In the final analysis the success of a state water pollution control program is dependent upon an adequate staff and budget along with adequate law, organization, and a capable administrator. These elements must be present in proper balance if the anti-pollution goals and objectives are to be achieved. While the task is both difficult and important, the stakes are high since the health and welfare of the Nation are dependent upon success.

NOTE: The 1964 Survey Report entitled Staffing and Budgetary Guidelines for State Water Pollution Control Agencies developed by the Public Administration Service has been distributed to each State Water Pollution Control Agency by the Public Health Service. An additional reprint entitled "Staffing and Budgetary Guidelines for State Water Pollution Control Agencies has been published in the January, 1965 Journal Water Pollution Control Federation and is available at a cost of $8.80 per 100. This reprint is authored by Thomas R. Jacobi, Richard A. Pavia, and E. F. Ricketts.

REPORT ON ACTIVITIES OF THE NATIONAL TECHNICAL TASK COMMITTEE ON INDUSTRIAL WASTES*

There is presented herewith a summarized Progress Report concerning the National Technical Task Committee on Industrial Wastes covering the past two years for information and consideration of the Association of State and Interstate Water Pollution Control Administrators. As indicated in previous discussions of NTTCIW activities, this Association maintains a cooperative working relationship with the Task Committee, with Mr. Paul Bonderson serving as liaison representative of the Association. The intent of this report is to briefly set forth developments in the present program, highlighting items of mutual interest. To provide the Association, particularly new members and associates, background on the origin, objectives, and functions of the Task Committee, the following information is first presented:

NTTCIW

The Water Pollution Control Advisory Board, established under the 1948 Federal Water Pollution Control Act, recommended that the Surgeon General invite Industry to create a committee to cooperate with the Public Health Service in accomplishment of the purposes of the Act. The Surgeon General invited representatives of major industries to meet with him to form a National Technical Task Committee on Industrial Wastes, which would work with the Public Health Service on pollution problems caused by industrial wastes.

The Committee was formally established in Washington in May, 1950. It was agreed that the Committee's objectives would be "to effect an improvement in the quality of water resources in the Nation," and "to perform technical tasks pertaining to industrial wastes in cooperation with the Public Health Service and all others concerned with improving the quality of our water resources."

Liaison representation from the Association of State and Interstate Water Pollution Control Administrators, and from the Conference of State Sanitary Engineers, makes possible effective consideration of matters related to industrial effluents of common interest to State and Interstate governmental agencies as well as to the Federal Government. The aim is encouragement of teamwork for progress.

In addition to this primary cooperative role with Government the Task Committee serves as a forum whereby the industrial representatives may exchange information on their sponsoring groups. There are other important functions but in its activities the above basic purposes are given primary consideration. A list of functions is attached. (See annex)

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*Presented by Mr. Lloyd T. Jensen, Past Chairman of NTTCIW, at the annual meeting of the Association of State and Interstate Water Pollution Control Administrators, in Denver, Colorado, December 9-10, 1964.

Organization:

Four major "Task Groups" were established: Task Group I - Food Industries; Task Group II - Mineral Products Industries; Task Group III - Chemical Processing Industries; and Task Group IV - General Industries. Organization of industries into Task Groups aided considerably in discussion of items of common interest to each group. (See charts, appended)

A few years ago special subcommittees were established on basis of need to give continuing attention to major functions of the Task Committee. This was an improvement, which tended to bring about more participation by the members and alternates between meetings.

At present there are twelve Subcommittees: Advisory Subcommittee consisting of past officers; Program; Research Projects; Basic Data; Research Personnel; Municipal-Industrial Treatment; Synthetic-Organic Chemicals; Publicity and Public Relations; Information; Training; Finance; and Meeting Arrangements.

Membership:

Sixty-seven members, alternates, and affiliates now serve on the Task Committee for thirty-four industries and cooperating organizations. The National Association of Manufacturers' representatives act for industries not at present having membership on the Task Committee. There is no limit on the number of industries participating and new ones are added from time to time. A variety of management and scientific professions and skills are represented, and the membership comes from major regions of the country. Organizational procedures aim to keep the character of the membership diversified to provide the skills necessary for an objective and productive program. In addition to those serving directly on the Committee there are several times the above number currently extending cooperation in task section and task unit capacities in accordance with the above indicated plan of organization and operation.

On a less formal basis, the NTTCIW has working relationships with most of the professional engineering and technical societies having an interest in water.

Procedures:

The National association of each of the industries names its own member and alternates. In addition, many maintain within their own organizational structure a committee to work with the NTTCIW. These are called Task Sections. It is the responsibility of each NTTCIW member to keep his particular Task Section or industry advised of NTTCIW activities. In turn, the NTTCIW is kept informed of developments in each of the industries represented in the membership.

The NTTCIW program operates year-round with the activities of the four Task Groups and various Subcommittees converging at the annual business meeting held near the end of each calendar

year. At these business sessions the full impact of the NTTCIW concept of inter-industry and industry-government cooperation makes itself evident.

Policy:

The policy of the NTTCIW is determined by the full membership at regular annual business meetings. Current policy provisions include:

"To encourage the development and collection of technical data having to do with the control of those industrial wastes which may contribute to pollution of surface and underground waters and to arrange for dissemination of this information and other pollution abatement measures coming to the attention of the Committee.

"To call attention to the research need in the industrial waste field. Where duplication of research is evident, it shall endeavor to develop mutually complementary investigations.

"To stand ready to advise the Public Health Service and other governmental agencies on technical matters as requested by such agencies or to initiate recommendations to those agencies as is determined to be appropriate.

"To concern itself with proposed legislation or changes in existing laws relating to industrial waste control, treatment and disposal. Where matters involving Congressional appropriations are under consideration it shall confine its recommendations primarily to those things having to do with funds for basic research in the field of industrial wastes.

"To provide for periodic releases of information about its activities to acquaint the public fully with its objectives and accomplishments.

"Membership on the Committee shall be confined to industry representatives more or less concerned with abatement of stream pollution and the reduction, utilization and treatment of industrial wastes."

Policy and procedures may be changed as necessary to effectively carry out cooperative activities.

Present Activities

There are briefly summarized below some of the more important current activities of the Task Committee:

1. Attention to development and application of water quality criteria, particularly with regard to industrial aspects of water quality management. A special Subcommittee is at work on a new water quality policy statement for consideration and appropriate action by the Committee.

2. Continued cooperation in basic data activities, with the development by a Subcommittee of a program to advise and assist the Public Health Service. Major emphasis at the present time is being directed towards (a) expansion of the stream sampling network, and (b) analyses and publication of data made available on industrial water use. The aim of the latter activity is to provide information on the industrial water and waste water situation in the United States. Digests of data by the participating industries have been prepared such as that accompanying this report. Publication of overall findings is to follow at an early date.

3. Preparation of a list of current and planned industrial waste studies.

4. Providing information on major advancements by industry in waste utilization, treatment and disposal.

5. Stimulation of awareness programs both inside and outside of industry through the NTTCIW News Quarterly, financed by the membership, and through other public information media. (See appended copy of News Quarterly.)

6. Development of a sequel to 'Clean Water', (copy attached), planned to be published this coming year with support furnished through the Task Committee.

7. Research consultation on projects at the Sanitary Engineering Center, with a special subcommittee making recommendations to the Center on characterization of organic chemicals.

8. Aiding with and stimulating interest in programs for training industry personnel to provide the compentencies needed for carrying out industrial waste control programs.

9. Employment of an improved procedure for selection of recommended research projects of industry interest in improving water quality.

10. Attention to requests for information and assistance received through the Public Health Service.

11. Preparation of industrial waste guides, with revised editions as needed to cover new techniques or advancements in taking care of wastes. A typical guide accompanies this report. A Synthetic Textile Industry Guide has progressed through several drafts, and will soon be ready for publication. Vegetable Canning, Plating Industry, and other new guides are being given attention. It is further indicated that new developments in processing and reduction in strength of wastes will probably result in the early issuance of second editions of some of the earlier industry guides.

12. Continued distribution of an industry prepared and financed NTTCIW brochure-report on progress for general information; copies of which are made available herewith to further supplement this report.

Meetings

During the past two years the Task Committee has held three meetings. A Special Research Meeting was held at the Robert A. Taft Sanitary Engineering Center (SEC) in Cincinnati, Ohio, April 10 and 11, 1963, with approximately fifty persons in attendance. Water scientists from the industries represented on the Task Committee joined with staff scientists of the SEC to evaluate progress in industrial waste treatment research and to promote research effort in the more critical areas.

Under the direction of Dr. Leon W. Weinberger, Chief, Basic and Applied Sciences Branch, staff scientists presented information on twenty-one research areas including: Epidemiological Significance of Water Pollution; Fish Toxicology, Physiology and Ecology; Bioassay Procedures and their Application; Land Drainage as a Factor in Stream Pollution; Effect of Stream Flow Regulation on Water Quality; Relation of Molecular Structure to Ease of Biodegradation; Effect of Heavy Metals on Biological Treatment Processes; Soils as Media for Waste Treatment and Disposal; Activated Sludge Pilot Plant; Advanced Waste Treatment; The Research and Training Grant Program of the Public Health Service; Identification of Trace Organic Contaminants; Evaluation of Carbon Column Sampling Techniques; Bacterial Indicators of Contamination; Role of Water in Transmission of Viral Diseases; Environmental Requirements of Aquatic Invertibrates; Significance of Algae and Actinomycetes; Removal of Suspended and Dissolved Substances; Occurrence of Protozoan and Metazoan Organisms; and the Water Quality Network.

The format for future research meetings is being changed to provide a better media for definitive consideration of the more critical research areas and to facilitate two-way discussions including related research being conducted by industry.

The regular annual meeting of the Task Committee was held in St. Louis, Missouri, December 11-13, 1963, with 47 in attendance. In addition to the regular membership and officials of the Department of Health, Education and Welfare, the meeting was attended by representatives of the Water Pollution Control Advisory Board, the Atomic Energy Commission, State Health Departments, Conference of State Sanitary Engineers, State and Interstate Water Pollution Control Administrators, research institutions, and others. This NTTCIW meeting included discussion of waste water problems encountered with atomic energy developments in the United States.

The Fifteenth annual meeting was held in San Francisco, California, November 18-20, 1964, attended by 73 members, alternates and guests. Reports by individual industries indicated many have industry-wide committees concerned with industrial water use, re-use, water quality and waste treatment. Problems are being resolved by application of a broad range of technical skills, employment of modern methods for storing and retrieving scientific information, the use of computers, and much more research on industrial processes to eliminate waste products at their sources.

The meeting was addressed by James M. Quigley, Assistant Secretary of the U. S. Department of Health, Education and Welfare. He called for greater effort on the part of industry to abate pollution, requested a review of the Task Committee program to make certain it was meeting the present day demands for clean water, and suggested better communications within industry to bring about a clearer understanding of both industry and governmental programs to keep the Nation's waters clean.

Assistant Surgeon General McCallum stressed the need for close coordination between government and industry and discussed the growing emphasis on regional and river basin programs to abate pollution. Dr. Weinberger briefed the NTTCIW members on current and future research within the Public Health Service. Mr. Faber reviewed the research and training grants program of the Public Health Service, and Mr. Burke provided an up-to-date report on the critical subject of criteria or standards for the Nation's waters.

The Industry and Federal representatives were joined for part of the meeting by a number of Californians who are prominent in West Coast water supply and pollution abatement affairs. These included William E. Warne, Director of the California Department of Water Resources, Sacramento; Dr. P.H. McGauhey, Director of the Sanitary Engineering Research Laboratory, University of California; Berkeley; F. R. Bowerman, Assistant Chief Engineer, Los Angeles County Sanitation District; Harvey O. Banks, Vice President, Leeds, Hill and Jewett, Inc., San Francisco; Paul R. Bonderson, Executive Officer, California Water Quality Control Board, Sacramento; and Paul W. Eastman, Program Director, Water Supply and Pollution Control, Region IX, U. S. Public Health Service, San Francisco. The activities and interests of State and Interstate agencies were covered during the meeting by representatives of the Conference of State Sanitary Engineers and the Association of State and Interstate Water Pollution Control Administrators.

Reports on current activities of the Task Committee were presented by the Subcommittees and Task Groups in keeping with usual procedures at the annual meeting. Further details are set forth in the issues (such as attached) of the NTTCIW News Quarterly, covering each of these meetings, copies of which are made available to members of the Association of State and Interstate Water Pollution Control Administrators.

The Task Committee Chairman for 1963 was Mr. Ernest P. Hall, Research Consultant, Consolidation Coal Co., Inc., Pittsburgh, Pennsylvania. Officers for this year, elected at the annual meeting in San Francisco are: Chairman, Mr. Walter A. Mercer, Assistant Director, Western Research Laboratories, National Canners Association, Berkeley, California; Vice Chairman, Mr. Jack Clifford, Public Relations Director, Potlatch Forests, Inc., Lewiston, Idaho; and Secretary-Treasurer, Mr. Louis F. Warrick, Public Health Service, Washington, D. C.

At the above meetings of the Task Committee the following Resolutions were adopted:

Resolution No. 3:

WHEREAS the United States is wholly dependent on water for its existence as a healthy and prosperous nation; and

WHEREAS the National Technical Task Committee on Industrial Wastes is well aware that the United States would be in serious trouble if water quality research failed to keep pace with the demands of modern technology; and

WHEREAS the scientific investigations, studies and research conducted at the Robert A. Taft Sanitary Engineering Center at Cincinnati, Ohio, having to do with water supply and treatment have proven beyond doubt to be useful and very beneficial in the National effort to keep the Nation's waters clean;

NOW BE IT RESOLVED that the National Technical Task Committee on Industrial Wastes in its business meeting held in Cincinnati, Ohio, on April 10, 1963, again reaffirm its stand that a comprehensive program of wastes quality research at the Robert A. Taft Sanitary Engineering Center receive necessary and adequate financial support and, further, that the research grants program of the U. S. Public Health Service likewise receive financial support to an extent commensurate with the need for intensified water quality research in the United States.

Resolution No. 4:

WHEREAS the training programs offered at the Robert A. Taft Sanitary Engineering Center and at other institutions and universities are believed to be of particular value to industrial personnel engaged in industrial water quality management and research;

NOW BE IT RESOLVED that the National Technical Task Committee on Industrial Wastes encourage appropriate industrial personnel to enroll in and take full advantage of applicable training courses offered by the Robert A. Taft Sanitary Engineering Center.

Resolution No. 5:

WHEREAS the National Technical Task Committee on Industrial Wastes deems it appropriate at this time to reaffirm its previously expressed statement of fundamental policy developed to equitably reconcile the various viewpoints presented at the President's National Conference on Water Pollution in December, 1960, at which time NTTCIW recorded its recommendation that "...the goal of pollution abatement is:

(a) To protect and enhance the capacity of the water resources to serve the widest possible range of human needs; and

(b) That this goal can be approached only by accepting the policy of keeping water clean, consistent with the variabilities within and among different river basins." (Emphasis supplied)

NOW BE IT RESOLVED that the National Technical Task Committee on Industrial Wastes express its regret that insufficient time was available at the conclusion of the 1960 National Conference to properly resolve the divergent views on appropriate wording of the published version of the policy statement that appeared in the Conference record:

> "that this goal can be approached only by accepting the positive policy of keeping waters as clean as possible, as opposed to the negative policy of attempting to use the full capacity of water for waste assimilation."

The latter statement clearly did not represent a consensus of the Conference and was adopted after a cursory review of conflicting wording and a curtailed discussion at the final plenary session.

The National Technical Task Committee on Industrial Wastes is confident that no responsible authority has ever advocated such use of the "full capacity of water for waste assimilation."

The unqualified recommendation of "keeping waters as clean as possible" and the categorical rejection of the concept of reasonable utilization of the assimilative capacity of receiving streams is irrational and economically unsound for many river basins of the nation.

Water Quality Criteria

An examination of your program for this meeting reveals that many of the topics you are interested in are also of real interest to NTTCIW. For example, the subject of water quality criteria which Mr. Horton discussed at your last meeting in Chicago was discussed by us at some length last month in San Francisco. In speaking of industrial wastes, he stated that "There's the rub." Here again, we would agree that the establishment of criteria is a very difficult and complex endeavor and there are many thoughts on the subject.

The development of criteria will depend on its suitability to serve water quality objectives which in turn must be attainable with our present state of knowledge. In setting up water quality needs for industry, we always find that someplace someone is using water, with only minor treatment, that ordinarily would not be considered suitable. It is for this reason that the criteria must encompass practical limits. Water criteria for industrial water cannot be set up under the quality factors normally established for municipal wastes because the pathogenic, toxicity, and esthetic conditions are so different. This also suggests that the use of population equivalents is an unsuitable tool for measuring industrial waste. The NTTCIW has supported

the Statement of Policy on Water Pollution Control as adopted by the Water Pollution Control Federation. A follow-up policy on water quality criteria will be developed.

Basic Data

The NTTCIW took cognizance of the following recommendation adopted by the Conference of State Engineers during the meeting of the Conference in Washington, D. C., June 25-28, 1963:

> "That the Conference start the development of an annual survey of industrial waste treatment needs, similar to the annual Municipal Waste Treatment Needs Survey using all available sources of information."

It was also understood that your Association and the Conference of State Sanitary Engineers had agreed to establish a Joint Committee on Water Pollution Control Data. The action was in response to the recognized need for overcoming problems due to a great diversity of methods or reporting data concerning water pollution and water quality improvement programs. It was reported that the assignment of the Joint Committee is to develop and propose uniform methods of reporting (collecting, storing, retrieving and analyzing) data concerning water pollution and its control. In carrying out this assignment, the Joint Committee has been called upon to consult with federal agencies and other national organizations which have an interest in the problem and which may assist in its solution.

In keeping with these developments, the Task Committee at its St. Louis meeting decided to call upon its Basic Data Subcommittee to stand ready to consult with the Conference of State Sanitary Engineers and this Association in working out a system for accumulating future basic data.

Awareness

Previous actions favored interchange of speakers on timely topics. It has been recommended there be an exchange of reports or views on topics of mutual interest, along with other consultation activities, in further development of NTTCIW cooperative working relationships with the Conference of State Sanitary Engineers and with the Association of State and Interstate Water Pollution Control Administrators.

A special research meeting of the NTTCIW at the Sanitary Engineering Center in Cincinnati, Ohio, is being planned early in April, 1965, with headquarters at the Sheraton Gibson Hotel. Details will be presented in forthcoming issues of the NTTCIW News Quarterly. A cordial invitation is being extended to the Association of State and Interstate Water Pollution Control Administrators to have representatives take part in the program to discuss current research and other related matters concerned with or applying to water quality management.

Conclusion

The NTTCIW is a voluntary activity on the part of the industry members and time for attendance and the travel costs, as well as the cost for the publication of the News Quarterly and the brochure "Clean Water", are paid by industry. One of the most beneficial results of the Committee's activities is the opportunity to exchange information on waste treatment methods and to discuss modification or improvements that have been developed. The interchange of research information is also most beneficial. There have been several instances where information transmitted from one member to another has resulted in an improved treatment system where it might otherwise have been considered impossible.

The Committee members as a whole are experts in the field of industrial wastes and in addition represent a wide spectrum of the nation's industry. It would seem that NTTCIW would be the most logical source of technical information on industrial wastes and this prompts the idea that a closer relationship needs to be established with the state and interstate agencies in the field of water quality management. Efforts along this line have already been made, as previously related, but there are greater opportunities for greater good. No doubt the people in the state and interstate agencies have the most detailed knowledge of industrial conditions along their streams. Technical information concerning industrial wastes can be obtained through the National Technical Task Committee on Industrial Wastes.

Industry is the water quality delinquent in the eyes of most people, largely because there is so little general knowledge about industry's contributions to water pollution abatement programs. Industry does not seek sympathy, but only understanding. Understanding can only come through a closer working relationship between industry representatives and the various state, interstate and federal agencies.

I would like to leave one thought with you. Industry is as aware of the need for water quality management as you are and industry in general is more than willing to cooperate. We also know that a great deal more technical information is needed for the ultimate answer to the problem. This information can be obtained through research and development with the help of all interested parties.

FUNCTIONS OF THE NTTCIW

1. To inventory, appraise, coordinate, and promote research in developing methods of using, treating, and controlling industrial wastes.

2. To facilitate the devising and adopting of uniform methods of measuring and evaluating trade wastes in water quality control.

3. To stimulate more effective working relations on technical phases of trade wastes problems among industry and Federal, interstate, State, and local agencies.

4. To employ the facilities of the Sanitary Engineering Center in those areas of research and development wherein they would be the most valuable to the over-all program.

5. To aid in establishing those areas where major needs exist for financial assistance in obtaining basic information on industrial waste problems in water pollution control.

6. To stimulate further the adoption of practical methods - known or yet to be developed - for reclaiming, reducing, and treating wastes impairing natural stream conditions.

7. To achieve wide dissemination of information on technical developments and the accomplishments of industry and to maintain suitable relations with technical societies, professional organizations, trade associations, and other groups which issue publications reaching persons concerned with water pollution problems.

8. To aid in promoting training activities to increase the operating efficiency of waste recovery and treatment systems employed by industry.

9. To perform such other technical tasks relating to industrial wastes as necessary to stimulating improvement in the quality of the Nation's water resources.

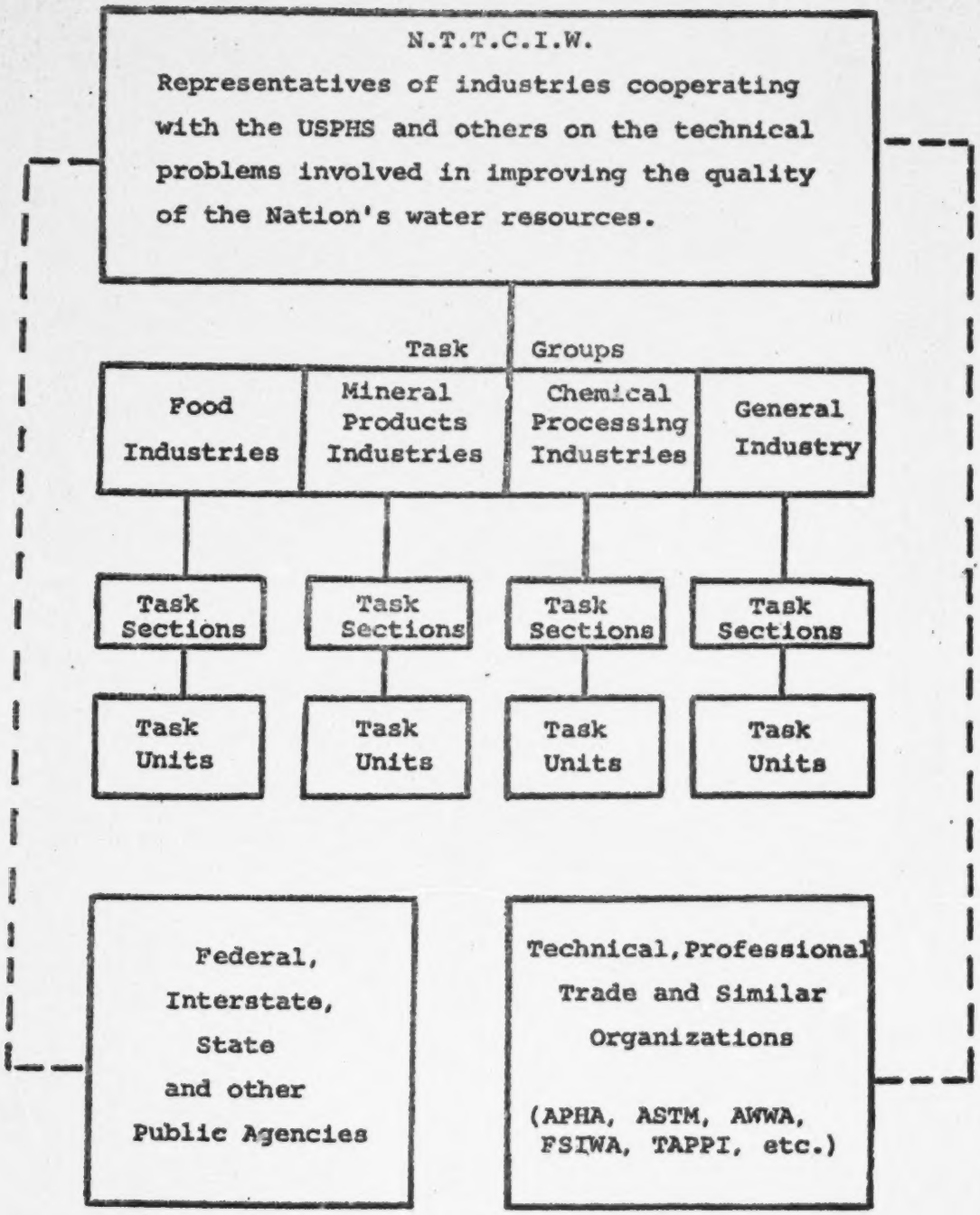
N.T.T.C.I.W.
Representatives of industries cooperating with the USPHS and others on the technical problems involved in improving the quality of the Nation's water resources.
Task Groups
Food Industries
Mineral Products Industries
Chemical Processing Industries
General Industry
Task Sections
Task Sections
Task Sections
Task Sections
Task Units
Task Units
Task Units
Task Units
Federal, Interstate, State and other Public Agencies
Technical, Professional Trade and Similar Organizations
(APHA, ASTM, AWWA, FSIWA, TAPPI, etc.)

Chart 1

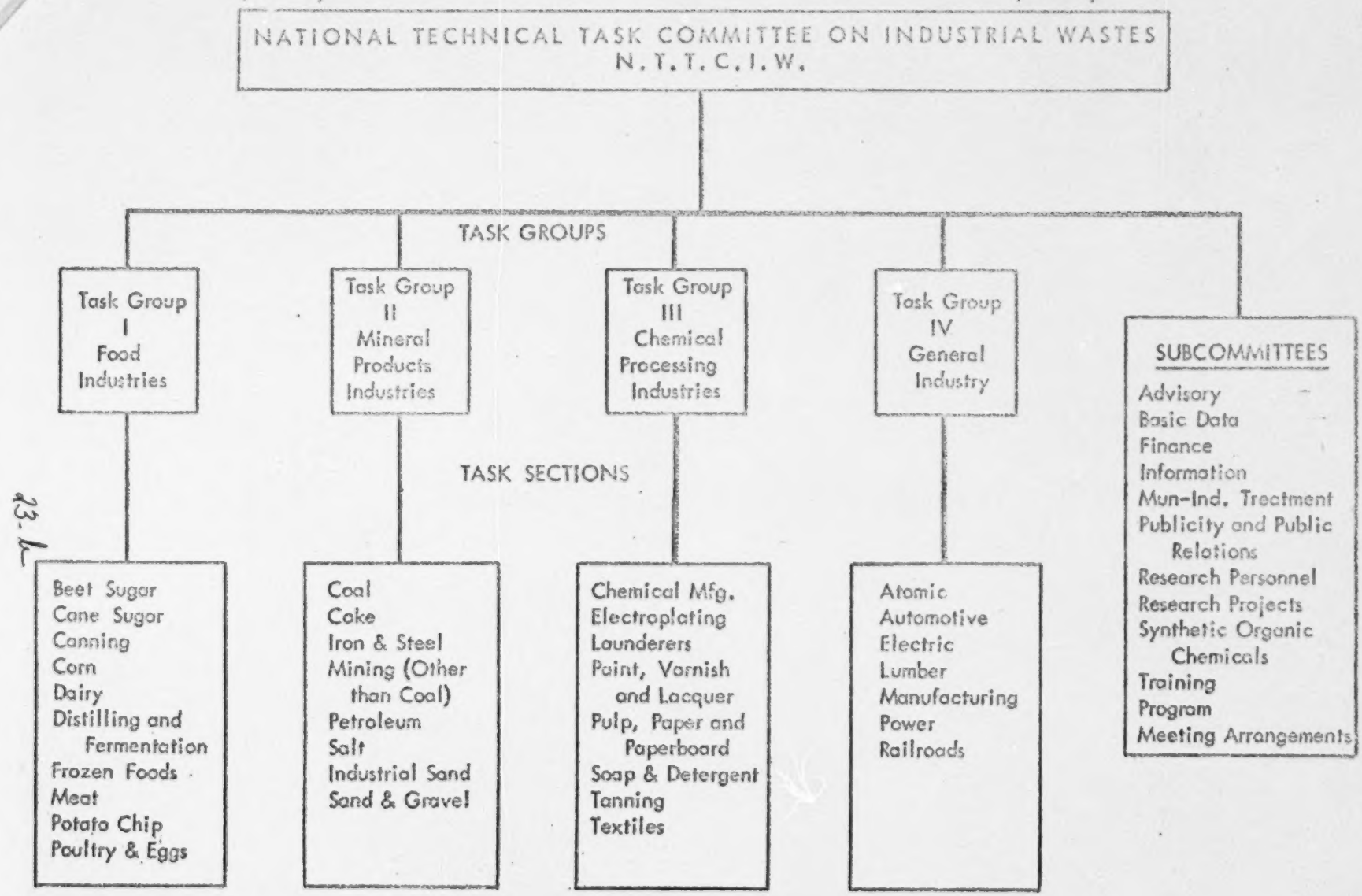
NATIONAL TECHNICAL TASK COMMITTEE ON INDUSTRIAL WASTES
N.T.T.C.I.W.
TASK GROUPS
Task Group I Food Industries
Task Group II Mineral Products Industries
Task Group III Chemical Processing Industries
Task Group IV General Industry
SUBCOMMITTEES
Advisory
Basic Data
Finance
Information
Mun-Ind. Treatment
Publicity and Public Relations
Research Personnel
Research Projects
Synthetic Organic Chemicals
Training
Program
Meeting Arrangements
TASK SECTIONS
Beet Sugar
Cane Sugar
Canning
Corn
Dairy
Distilling and Fermentation
Frozen Foods
Meat
Potato Chip
Poultry & Eggs
Coal
Coke
Iron & Steel
Mining (Other than Coal)
Petroleum
Salt
Industrial Sand
Sand & Gravel
Chemical Mfg.
Electroplating
Launderers
Paint, Varnish and Lacquer
Pulp, Paper and Paperboard
Soap & Detergent
Tanning
Textiles
Atomic
Automotive
Electric
Lumber
Manufacturing
Power
Railroads

Chart 2

Summary of speech given December 10, 1964 to the Association of State and Interstate Water Pollution Control Administrators, Denver, Colorado.

Lyle R. Grimes*

The United States Junior Chamber of Commerce "Clean Water Program" can be defined as a community action plan aimed at increasing public awareness and knowledge of water pollution problems. We intend to be an active part of the catalyst of people, government, civic organizations, etc. that it takes to satisfactorily resolve water pollution problems.

The national Jaycee organization provides educational material and promotes activity in the area by local chapters. To facilitate contact with local clubs 15 regions have been established across the country, roughly corresponding to natural water basins. Each region has a chairman responsible for coordinating activities between local clubs and state organizations. Each chairman can supply information on state and local operations to interested parties.

Our national kit for locals was produced and mailed in cooperation with our Co-Sponsor the National Clay Pipe Institute. The kit was received in August 1964 by over 5,000 local clubs. It includes background information and an action guide for locals. The action guide stresses research and conference with state and local health agencies as the vital first step in a good Jaycee clean water project.. As a result many of you may be contacted by local clubs. Especially since our next mailing to locals will have a directory of agencies and organizations from whom reliable information can be obtained. We are hoping such requests will be well received by the concerned agencies since their attitude will have great effect on the Jaycees program.

In addition to asking you for help we would like to offer ours to you in any way possible. If you have a problem city and think Jaycees might help please let me or one of the regional chairmen know. We will promptly do our best to interest the local club in the problem and obtain their cooperation for you. Our main goal is reduction of water pollution problems in the United States and we welcome all advice or guidance you can offer us in furthering that goal.

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*U. S. Junior Chamber of Commerce, National Chairman, Clean Water Program, Missoula, Montana

INTERIM REPORT OF JOINT COMMITTEE ON WATER QUALITY MANAGEMENT DATA

S. Leary Jones *

A study is being made by a joint committee of the Association of State and Interstate Water Pollution Control Administrators, the Conference of State Sanitary Engineers, and the Public Health Service. Walter A. Lyon, Pennsylvania, is chairman and the other members are: Irving Grossman, New York; Theodore E. Wisniewski, Wisconsin; Richard S. Green, Public Health Service; William M. Colony, Public Health Service; and S. Leary Jones, Tennessee. In September, 1964, the committee was enlarged by three: John W. Roehl, Soil Conservation Service; Donald Curtis, Corps of Engineers; and Granville A. Billingsley, Department of Interior.

The original charge to the committee in November, 1963, from Mr. Carl Mason was as follows:

> "In order to give the Joint Committee a basis upon which to begin work on a very difficult subject, I would like to propose the following charge: During the growth of water pollution control and related programs at the state, interstate and federal levels, a great diversity of methods of reporting data concerning water pollution and water pollution programs has developed. As the need for cooperation among such agencies at all levels increases, efficient and rapid interchange of information is essential but is hampered by the lack of uniformity in data reporting. The assignment of the Committee is to develop such proposed uniform methods of reporting (collecting, storing, retrieving and analyzing) data concerning water pollution and water pollution control programs. In carrying out its work, the Committee should consult with federal agencies and other national organizations which have an interest in the problem and which may assist in its solution."

These charges have been tabulated by the committee and reviewed by the Conference of State Sanitary Engineers. They can be summarized as follows from a letter of September, 1964:

"1. Prepare general guidelines to resolve the physical problem of efficient handling of large volumes of data.

2. Develop a pattern of uniform terminology in the collection of water quality management data.

3. Determine certain points of common approach which should be included in all data systems.

4. Encourage State use of uniform features developed by this Committee.

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*Executive Secretary, Tennessee Stream Pollution Control Board

5. Develop data systems which are capable of giving fully useful answers to a variety of questions asked by legislators, public officials, program directors and the general public.

6. Develop data systems which are able to serve as a basis for program planning and evaluation of program progress.

7. Develop data systems which should enable States to communicate more effectively with the public about water quality management for the best uses of the water in an area.

8. Develop the data systems which are flexible to meet varying program needs or conditions."

This committee is not preparing a plan on how you should manage the water quality in your State. It will not suggest or offer an outline of the water quality you need. The committee is studying only a system for tabulating data suitable for use within a State program or for the interchange of data on a national basis. I can assure you that the committee will not set up a storehouse for you to fill out forms to send to it.

We do hope to send you information as we get further into this study and ask your help on how to tabulate data, on what data should be kept, on what data to throw away, and on how to throw it away. Many States have already developed data processing systems or are working on them. Much of this information has been used by the committee.

The committee met twice during this year and I assure you that we do not have a package answer to hand to you, and frankly this is not the committee's purpose. Its purpose is to explore a common approach, guidelines and a pattern. Some systems will still remain hand operated and some will be highly developed for computors.

I do not know about your systems for storing data. Mine is horrible. It is not quite as bad as notes on the backs of used envelopes, but my files will not give back to me the data neatly summarized and up to date when I need it.

I have been using the word "data" very loosely and broad. It means simply the information, facts, figures, statistics, numbers, etc. that collect in any program of Water Quality Management. As we discuss for a few minutes the work that has been done by the committee to date, I believe you will understand better just what we hope to include.

Walter Lyon, chairman of the committee, has prepared the first progress report which covers activities through June 17, 1964 and these have been distributed. The report does not include the September 26 meeting. We hope to summarize the information at intervals and send it to you for study, comments and suggestions.

We will cover most of the progress to date too fast for critical review.

The report outlines the problems we hope to solve:

"A. The interchange of information among agencies in the water quality field at state, interstate and federal levels is difficult due to the lack of standardization in data processing.

B. There is much variation in the requirements of each agency as to what should be reported.

C. There is inefficient use of manpower due to the need to convert data from one system to another and to obtain such data.

D. There is difficulty in communicating technical information about water pollution control through our public relations representatives to lay people.

E. We need better measures of progress in water pollution control; one tool is an effective and efficient information storage and retrieval system.

F. We have difficulty in communicating rapidly with each other due to the absence of identical or mechanically convertible systems.

G. We lack uniformity in terminology, and lack uniformity of analytical procedures.

H. In some cases little is known as to the reliability of data; we need some uniform method of identifying the reliability of data.

I. There is lack of understanding in some areas as to the benefits to be derived from data processing in the water quality field, and the necessity of having data readily available.

J. Data processing is not being given the proper budgetary support in some jurisdictions. The amount of money required for information processing should assume a proper balance with the rest of the budget."

Data Types

We have listed ten data types of guides and have been working on five of these this year. We hope to start on the other five or more next year. They are very briefly:

1. Identifying Data Guide - Richard Green has been working on this guide. It is to include data which describes and locates pollution and pollution control by geographic, political, legal, hydrographic and other means. It sounds simple, but it is not simple to propose a uniform system to describe any point on a stream, any point

of use, any point of pollution or any analytical result in relation to other data, and then find and assemble other related data. Two systems have been discussed. One is based on coordinate location and the other is based on stream mileage indexing. Mr. Green is working on a system and the committee will discuss it further at a spring meeting.

2. Status Data Guide - Irving Grossman was assigned this item. It covers data on the compliance of pollution sources with state, interstate and federal requirements. This name has been changed to Case Status System Guide. The objective of this system is to provide a means to identify all polluters (or any other case such as a water supply, bathing place, and others) and to determine what progress is being made to correct unsatisfactory conditions. Unsatisfactory conditions will cover both design and operation. The answer to the question of the case status is not as simple as "Yes" or "No".

3. Quality Data System Guide is being prepared by William M. Colony. This includes data on the quality of wastes and waters. These data identify and characterize the physical, chemical, bacteriological, biological and radiological parameters which affect the quality of water resources. No single standard format for presenting these data will meet the requirements of all the various uses of quality data for water quality control programs.

4. Project Data System Guide is being prepared by Walter A. Lyon and will include data on cost and status of work which is done to abate pollution. This is one of the systems that I wish I had set up now because I am finding more and more use each year for these data to be summarized.

5. Facilities Data Guide - I have been working on this one. I was late preparing it and do not have the benefit of the comments from the members of the committee. It will include the data on the type and design of waste treatment facilities. We did discuss at the September meeting the extent of data on the design of the treatment plant that should be included. I have a very personal interest here because I need to revise my own system of tabulation in Tennessee. If we include too much data, we will waste time tabulating it. But we should be sure we do include the essential data, or we will not receive the desired benefits. We will be asking for your advice on this guide and we will need it.

Next year we hope to redraft the five guides just discussed and start on:

6. Operation Data - data on the operation of waste treatment facilities - personnel.

7. Program Data - data on the personnel and fiscal resources which are used to conduct water pollution control programs.

8. Contact Data - names and addresses for contacts regarding facilities and operations.

9. Pollution Incidents Data - data on fish kills, spills and complaints.

10. Water Use Data - data on the use of water.

The intent is to prepare each guide so that the data can be coded. The term coding means the use of digits, letters or symbols as substitures for alphabetic information or for whole ideas or concepts so as to enable data to be handled mechanically in modern punched cards and electronic data processing systems.

I suggest you do not get excited and comment that you have no intent of fooling with a fancy data system that you do not need. I have no intent of wasting my time on any fool system that's of no use to me in my work. I don't have time. But, I suggest you examine the work this committee is doing as it progresses. We realize the danger of telling you about an incomplete system. I already can see a help to me on my data systems because much of the time now spent by technical personnel in tabulating data can be done by aides or machines.

MEASURING POLLUTION ABATEMENT PROGRESS

Robert K. Horton*

This is a progress report presented on behalf of the Joint Committee on Pollution Abatement Criteria, the other members of which are Paul Bonderson of California, George Burke of the Public Health Service, Lee Mayes of Kansas, Ralph Picard of Kentucky and Leon Weinberger of the Public Health Service.

The Joint Committee was created a year ago, and an organizational meeting was held at the time of the annual meeting of the Association last December in Chicago. Following this, a meeting was held last Spring, which was attended by three members. Two other meetings have been called. Unfortunately, however, on both occasions only one other member other than the chairman was able to attend, and consequently those occasions can hardly be considered as committee meetings.

The material presented here, therefore, has been prepared without the benefit of discussion with the committee. It would appear that consideration of this material by the committee and the consolidation of committee viewpoints are matters that will have to be handled through correspondence.

Progress based on stream conditions

The burden of this report is concerned with stream quality data, and with the problem of judging the significance of such data. This orientation stems from the viewpoint that measurement of pollution abatement progress must rest, in the final analysis, on an appraisal of stream conditions. This sentiment was expressed forthrightly to the Joint Committee at the time it was established by the chairman of the Association, Mr. B.A. Poole. Mr. Poole wrote, "Practically everyone agrees that ultimately we should come to the characteristics of the receiving water as our measure of pollution or our measure of progress."

What, then, lies in the way of following such an approach? The answer seems to be that too little attention is being devoted to the orderly and continual evaluation of stream quality conditions--and by evaluation is meant not simply the assembly of data, but the development of diagnostic judgment to discern the meaning and significance of data.

It cannot be said that there is a lack of yardsticks--criteria and standards--to aid judgment in the assessment of stream quality. There may be lethargy or indifference on the part of some toward applying those that are available, and more may be needed, but certainly some yardsticks of recognized validity are already at hand--in fact, there are quite a few.

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*Assistant Director, ORSANCO and Chairman, Joint Committee on Pollution Abatement Criteria

It seems, therefore, that efforts of the Joint Committee might and should be directed toward development of recommended procedures for evaluating stream quality conditions. It is with this thought in mind that the following material has been prepared. The material may be looked upon as a case history based on experience in the Ohio Valley. It is presented only for illustrative purposes. It describes a concept and shows how this concept is applied to measure pollution-abatement progress in terms of stream quality conditions.

Obvious pollution

The focus is essentially on the evaluation of stream conditions as measured by chemical and bacteriological characteristics. However, it is presumed that waste control has been exercised at least to the point of eliminating obvious pollution. Obvious pollution is, of course, a matter of first priority for any pollution control agency. So long as the public can see floating materials, oil, unnatural color or other offensive conditions, it becomes academic to talk about coliform concentrations, dissolved-oxygen levels or other chemical indicators. The need to control obvious pollution was noted in the interim report of the Joint Committee to the Conference of State Sanitary Engineers last June. It was said at that time the Joint Committee assumes its major concern is with the assessment of conditions after obvious pollution has been eliminated.

So far as progress in the control of obvious pollution is concerned, the easiest way of measurement, perhaps, is in terms of number of municipalities that have built sewage treatment plants and number of industries that are complying with control regulations. Treatment plants and other compliance facilities or operations, of course, will accomplish more than the elimination of obvious pollution. But certainly obvious pollution can not be eliminated without them.

Collection of data

With regard to chemical and bacteriological characteristics, the collection of adequate data is basic, of course, to a meaningful appraisal of stream quality. A number of states have been giving increased attention to this task, as have some of their regional agencies and the Public Health Service. On the Ohio River, for example, a regional program for systematic monitoring of water quality was inaugurated as long ago as 1951. Some four years ago, this program was augmented with electronic devices by means of which analyses of water quality are automatically made and transmitted to central headquarters for evaluation. This is not to imply, however, that electronic monitoring is requisite for the assembly of data. Quite to the contrary, in most cases it should be regarded only as a supplement to a well organized program employing orthodox methods.

Data evaluation

The concept of data evaluation in the Ohio Valley embodies two general lines of inquiry. First, stream conditions are weighed--on a constituent by constituent basis--against certain standards and

criteria that are accepted as authoritative. Second, conditions are compared with those in previous years in order that changes can be noted and trends assessed.

A brief outline of procedure is presented for two reasons: First, to demonstrate application of the concept; and second, to suggest that herein may be found the basis for resolution of the Joint Committee's assignment.

With regard to the first line of inquiry, the standards and criteria employed by the ORSANCO staff for appraisal have been drawn from three sources:
(1) Public Health Service Drinking Water Standards, 1962 (Public Health Service Publication No. 956, U.S. Government Printing Office). These official standards are recognized and applied throughout the country. They contain recommended or mandatory limits for some 25 chemical constituents. Although the limits apply specifically to potable water, they provide a basis for judging the quality of river water that is to be used as a source of supply for that purpose.
(2) Recommendations of the Ohio River Committee in a report to the Congress of the United States in 1943 (House Doucment No. 266, 78th Congress, U.S. Government Printing Office, 1944). Appointed by direction of the President, the Ohio River Committee undertook "the most complete and comprehensive examination ever made of the sanitary conditions of a major river and its tributaties". Its recommendations reflected an appraisal of data compiled over a period of five years by the U.S. Public Health Service and the Corps of Engineers.

Among the more important recommendations of the Ohio River Committee regarding water quality characteristics are the following:

Characteristic	Water Use	Range
Coliforms	Water supply	Desirable: Monthly average not over 5,000 per 100 ml Unsuitable: Monthly average over 20,000 per 100 ml
Coliforms	Bathing-recreation	Desirable: Average not over 100 per 100 ml; maximum not over 1,000 per 100 ml Unsuitable: Over 1,000 per 100 ml
Dissolved oxygen	Fish life	"In general...a 5 ppm minimum is desirable, except where local conditions may be favorable to allowing a 4 ppm minimum in limited zones..." Unsuitable: Less than 3 ppm on any day

It might be noted that after the eight states created ORSANCO they adopted the following objectives for coliform concentrations as guides in the establishment of sewage treatment requirements and in the evaluation of sanitary conditions: For water supply uses, monthly average concentrations should not exceed 5,000 per 100 ml; for bathing waters, monthly average concentrations should not exceed 1,000 per 100 ml during any month of the recreation season.

(3) Recommendations of the ORSANCO Aquatic-Life Advisory Committee (Journal Water Pollution Control Federation, (formerly Sewage and Industrial Wastes), vol. 27, pp321-331, March 1955, vol. 28, pp 678-690, May 1956; vol 32, pp 65-82, January, 1960). This committee is composed of men who speak with authority in the field of aquatic biology. It includes such experts--just to name a few--as L.L. Smith of Minnesota, B.G. Anderson of Pennsylvania, James B. Lackey of Florida, Edward Schneberger of Wisconsin and C.M. Tarzwell of the Public Health Service. The committee has made recommendations regarding the following water quality characteristics in so far as their influence on the maintenance of fish and other aquatic life is concerned: Dissolved oxygen, pH, temperature, dissolved solids, settleable solids, chloride, fluoride, iron, manganese, cyanide, phenolic compounds, radioactivity, detergents.

Second line of inquiry

The second line of inquiry followed by ORSANCO in appraising stream conditions is an examination of changes in quality with respect to time. The question examined is: How do quality conditions today compare with those in previous years?

Description of statistical techniques employed in this kind of investigation is beyond the scope of this report. It might be pointed out, however, that one of the most important factors dealt with is an analysis of variation in patterns of river flow from one year to the next. Stream gaging records for the Ohio River show, for example, that flows of extreme--drought and flood--occur in cycles of about eleven years. Therefore, in selecting periods of time to be used for comparative studies in quality characteristics, it has been found essential to select periods that similar short-term hydrographs, and also those that occupy the same relative position in the long-term hydrological cycle.

Findings on quality conditions

Findings from application of the evaluation procedures outlined--the weighting of quality levels against standards and criteria and the comparison of levels today with those that existed previously--may be illustrated by the following excerpts from the most recent ORSANCO staff appraisal of quality conditions in the Ohio River, that for calendar year 1963:

Coliforms: Concentrations are meeting recommendations of the Ohio River Committee that monthly-average values in river water should not exceed 20,000 MPN per 100 ml. The "desirable" range of 5,000 MPN per 100 ml or less for water supply purposes was met 70 to 100 percent of the time in five of seven monitored stretches. In the other stretches yearly average values were 6,000 and 10,000 .

In 1948, when the regional program for river clean-up was inaugurated, coliform counts were as high as 1,000,000 in some stretches.

With regard to river quality for bathing and other recreational purposes, the goal of 1,000 MPN or less was being met in three stretches in which average counts during the period June through August ranged from 300 to 800.

Chloride: In no stretch of the river did concentrations (monthly average values) in 1963 exceed 250 mg/1, the limiting value for potable supplies recommended in PHS drinking water standards. Analysis of quality records since 1951, when the monitor program was initiated, shows there has been no build-up of chlorides, as indicated by peak values, over the years.

Dissolved oxygen: The Ohio River Committee recommended a monthly average concentration not less than 5.0 mg/1 as desirable, but noted that a minimum of 4.0 mg/1 might be considered satisfactory in some areas. Concentrations were greater than 5.0 mg/1 90 percent of the time, and greater than 4.0 mg/1 98 per cent of the time.

Temperature: Readings were within the range considered satisfactory for aquatic life. Recommendations of the Aquatic-Life Advisory Committee are that temperatures should not be raised above 93 deg. F. at any time, nor above 73 deg. F. at any time during the months December through April. The maximum value observed in the river during the year was 87 deg. F., and the maximum value during December through April was 64 deg. F. The range in temperature observed in 1963 was essentially the same as that observed in prior years.

These thumbnail sketches are distilled versions of appraisals contained in the full report. The four sketches represent only a small part of the total quality picture. It should be noted, therefore, that the ORSANCO report includes analogous appraisals of some sixteen quality characteristics.

The aim in preparing appraisals along the lines indicated is to answer such questions as: (1) Are quality goals being met? (2) If not, are conditions improving? and (3) How much further improvement is needed to meet desired goals? Answers to these specific questions, it seems, provide the most meaningful answer to the broad question of "Where do we stand in pollution control today?"

By compiling an inventory of this nature each year, information is obtained on the progress--or lack of progress--that is being made.

Economic considerations

Mention should be made of the need to take into account the effect of economic factors on pollution control activities. Water quality appraisals today are based for the most part on standards and criteria related to public health requirements. Once these requirements are met, it appears that a rational basis for determining additional waste-control measures would reflect economic considerations. There is a paucity of information on such matters. However, progress is being made in this direction, notably under the leadership of Resources for the Future, Inc., which has several research projects in this area.

Water quality index

Once an appraisal of stream conditions has been made along the lines indicated or along similar lines, it may be helpful to have some means or "tool" by which quality levels in one area may be compared with those in another. Such a tool might be found through development of a water quality index. The ORSANCO staff is seeking to develop and apply such an index, some details of which were outlined by the writer at the 1964 annual meeting of the Water Pollution Control Federation.

The proposed water quality index may be defined as a numerical rating reflecting the composite influence on overall quality of a number of individual quality characteristics. Its advantage would be in providing a means for comparing water quality levels on a relative basis. Index numbers would not be referenced to specific water uses.

It should be emphasized, however, that use of an index system is not regarded as a substitute for the type of diagnosis outlined. Only the latter will reveal whether water quality is being maintained at desired levels and whether pollution control programs are meeting expectations.

Conclusion

A method of evaluating stream quality conditions--in terms of comparisons against authoritative standards and criteria, and comparisons with conditions in previous years--has been outlined. Application of these procedures presumes that waste control has been exercised at least to the point of eliminating obvious pollution. A set of chemical and bacteriological standards and criteria, which are considered appropriate by the ORSANCO staff for the Ohio River, has been presented. Evaluation procedures described illustrate how efforts are being made in one area to measure pollution abatement progress in terms of stream quality characteristics.

THE WATERSHED PROTECTION AND FLOOD PREVENTION ACT AND LOW FLOW AUGMENTATION FOR WATER QUALITY CONTROL

Ellis L. Hatt*

It is a real privilege to participate in your annual conference. It is always a pleasure to discuss our program under the Watershed Protection and Flood Prevention Act, (Public Law 566, 83d Congress, as amended), with State officials. I am especially pleased to have this opportunity to relate some of the potentialities and limitations of the program under that Act to the subject of this panel discussion.

MULTIPLE PURPOSE AUTHORITY

Public Law 566 was enacted more than a decade ago. It was originally designed to provide authority for federal assistance in the prevention of flood and erosion damages in small upstream watersheds. This original Act was amended by four subsequent Congresses. These amendments have broadened the authority. The amended Act authorizes federal assistance in planning and installation of multiple purpose water and related land resources programs. It allows the inclusion of almost any type of land treatment or structural measure for the conservation, development, utilization or disposal of water. There is a limit on the size of reservoirs. No reservoir can have more than 5,000 acre feet of flood detention capacity or more than 25,000 acre feet of total capacity for all purposes. Recreation, fish and wildlife development, municipal and industrial water supply are now authorized purposes. Measures for one or more other purposes have been included with flood prevention in nearly one half of the small watershed projects now authorized for operations. Storage for low flow augmentation for water quality control has not been included in any of the projects planned to date.

FEDERAL - STATE - LOCAL COOPERATION

The Watershed Protection and Flood Prevention Act provides the basis for a unique federal-state-local partnership in water resource development activities. This Act authorizes the Secretary of Agriculture to cooperate with and to provide technical and financial assistance to states and local agencies. It does not authorize the planning or construction of federal projects. Watershed projects are local projects. The Act requires local organizations to formally apply for assistance. The concerned state, or states, must recommend each application for federal assistance. The watershed work plan which provides the basis for authorization of Federal assistance with installation is scrutinized and commented upon by the State in accordance with executive order and the regular coordinating procedures of the Inter Agency Committee on Water Resources.

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*Presented by Ellis L. Hatt, Assistant to the Deputy Administrator for Watersheds, Soil Conservation Service, U. S. Department of Agriculture at the Annual Conference of State and Interstate Water Pollution Control Administrators in Denver, Colorado, December 10, 1964.

Between 1955 and 1963, 43 State legislatures enacted 285 laws to facilitate cooperation between State and local agencies and the Department of Agriculture in watershed project activities.

Many States are appropriating funds to supplement federal appropriations for watershed planning. This year, local and State funds available for watershed planning in 25 States will amount to more than $2.3 million.

Department of Agriculture policies favor multiple-purpose over single-purpose developments, but the local sponsoring organizations make the final decisions to include or to exclude water storage, or any other measure, for any feasible purpose in specific projects.

The fact that no project has yet been planned to include storage for low flow augmentation for water quality control is not the result of legal or policy prohibitions. It has not been included because no local sponsoring organization has wanted it included and was willing to assume the obligations involved.

COST SHARING PROVISIONS

Public Law 566 stipulates different proportions of federal - non-federal sharing of costs allocated to different purposes. The sponsoring local organizations must share in the installation costs for all purposes. All operation and maintenance costs are non-federal.

An analysis of the first 500 projects approved for operations shows they involve a total estimated installation cost of $743 million, of which approximately $441 million (60 percent) will be Federal and $301 million (40 percent) non-Federal. Of the $301 million non-Federal costs, about $197 million will be the costs of applying land treatment measures and the remaining $104 million will be for land, easements, and rights-of-way, administering contracts, and other requirements of local organizations.

Some of the cost sharing stipulations of Public Law 566 differ from the provisions of other federal legislation. Storage of water to regulate stream flow for water quality control is one of the purposes for which there is such a difference. As all of you know, the 1961 amendments to the Federal Water Pollution Control Act provide that all storage costs in federal reservoirs for streamflow regulation to achieve widespread water quality benefits are non-reimburseable. Under Public Law 566 federal assistance for storage for a similar purpose is limited to technical help with work plan preparation and the financial aid of a long term interest bearing loan.

Immediately following the approval of the 1961 Amendments to the Federal Water Pollution Act, a question arose regarding the applicability of those amendments to watershed projects. This question was resolved in the U. S. Department of Agriculture by an opinion of its General Counsel. He ruled that these amendments did not apply to Public Law 566 watershed projects.

POTENTIALS AND LIMITATIONS

In spite of the fact that none of the small watershed project reservoirs planned to date includes storage capacity for stream-flow regulation for water quality control, there is evidence that storage for this purpose may be provided in some future watershed projects. We have made no specific detailed studies to evaluate the potential for low flow augmentation through small upstream reservoirs. Yet our project planning and river basins investigations have revealed that many upstream watersheds have favorable reservoirs sites, dependable water yields, and waste disposal problems.

There are no apparent reasons why the local-state-federal cooperative arrangement that has worked so successfully for solving other types of water problems could not be readily used for projects containing storage for regulating the low flows of small streams. Most of the watershed projects planned thus far are designed primarily to solve problems within the watershed project area itself. The law stipulates that these project areas may not exceed 250,000 acres. The local sponsoring organizations represent individuals who have direct interests in solving those local problems. It appears that small groups affected by a local low flow problem could organize and solve it in much the same manner that hundreds of groups have solved high flow and water supply problems.

Low flow regulation would present a slightly different reservoir operating problem than high flow regulation with the typical flood water retarding structure. The majority of watershed reservoirs constructed to date operate automatically. However, some watershed projects have reservoirs that contain storage for irrigation and water supply purposes that is regulated by gates. Operation of these reservoirs to serve local needs has posed no special problems.

As local waste disposal problems become more acute, a few local sponsors may be willing to pay the costs of storing water needed to augment the low flow of small streams to supplement waste treatment in the project area. However, the present cost sharing provisions of Public Law 566 probably do not provide sufficient incentive for local groups to include storage for low flow augmentation for water quality control in all reservoirs where the inclusion of such storage is needed and feasible.

Our experiences during the past ten years do not provide a good basis for realistically projecting the role that Public Law 566 watershed projects could play in low flow augmentation in major tributary and main stem reaches. That is because different kinds of institutional, financing and operating problems would be involved in solving main stem or major tributary low flow augmentation problems with large numbers of small reservoirs in locally sponsored watershed projects. It is perfectly legal to formulate watershed projects to produce benefits at locations outside the project area. There are some cases where several projects have been formulated concurrently to solve downstream

as well as "within project" flood problems. However, those cases have used special organizational arrangements for coordination. An organization with a larger area of jurisdiction than the typical individual project sponsor is required.

In general it does not seem realistic to expect that the groups who sponsor projects and share in costs of solving local problems would be willing and able to assume the total obligations for storing water for use in augmenting main stem flows for water quality control. Most of these groups would not have the interest nor the resources needed for solving those major downstream problems.

Coordinating the operation of large numbers of small reservoirs in many separate projects for low flow augmentation in main stem or major tributary reaches would present complex technical and administrative problems. We have had no experience with those kinds of problems.

In closing, I must remind you that even though watershed project reservoirs do not have specific storage capacity reserved for low flow augmentation for water quality control, these reservoirs and the supporting land treatment measures are making significant contributions to the control of silt pollution and incidentally to the beneficial regulation of stream flow.

Those of us in the Department of Agriculture who have responsibilities for the small watershed program are anxious to cooperate with you and others concerned to insure that Public Law 566 projects make maximum contributions to water quality control consistent with the other objectives of these developments.

PROGRESS REPORT ON FLOW REGULATION FOR WATER QUALITY CONTROL

Keith S. Krause*

It is a great pleasure to discuss in this panel session some of the highlights of activities since the passage of the flow regulation amendments to the Water Pollution Control Act in 1961.

First of all I believe a brief progress report on these activities is appropriate. Since 1961, 140 Bureau of Reclamation and Corps of Engineers proposed water storage projects have been given study from which recommendations for amount and value of such water for quality control purposes have been prepared and furnished the sponsoring agencies. The benefits from storage in these proposed Federal reservoirs for water quality control purposes is estimated at about $19,000,000 per year. This will support nearly $1 billion in construction investment. Of this number of projects, 100 are being sponsored by the Corps of Engineers and 40 are by the Bureau of Reclamation. These projects are located in 42 different States.

There are about 114 additional projects that have not yet been examined by our staff but which will be examined in the next three years.

We believe that flow regulation available from these structures will have a considerable impact on water pollution control during and beyond the next 25-year period. We believe that the impact would be considerably broadened if at least the small watershed reservoir protection program of the Soil Conservation Service were also included among the reservoir structures which may be employed to assist in controlling water quality.

I believe most of you are aware of the ground rules by which we are making estimates of needs; however, briefly they are these:

1. Releases from storage are not to be used as a substitute for adequate waste treatment or removal at the source.

2. Adequate treatment is defined by us to be the best practical treatment or removal system available.

3. Emphasis shall remain on waste treatment or removal at the source.

4. Flow releases are necessary to provide a second line of defense for quality control which waste treatment or removal practices cannot accomplish. Their purpose is to assist in maintaining quality for water reuse in meeting the needs of a continually expanding economy and population.

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*Chief, Technical Services Branch, Division Water Supply and Pollution Control, Washington, D. C.

We have found that on almost all occasions, beneficiaries have been multiple and the benefits widespread in nature and have so identified them to the sponsoring agency. Under these circumstances, the Act provides that the costs of the water quality control feature shall be nonreimbursable.

Two logical questions which I know are in many of your minds are--have any of these projects been built and how is the flow actually regulated?

None of the projects have yet been completed; however, several are under construction so we must think about the operational phase very seriously now. We must at the same time keep in mind the admonitions of the Act, for example, that such releases are not to be used in lieu of adequate waste treatment.

I am suggesting that this body can be of assistance in the development of the principles of a plan in cooperation with the Federal agencies for dealing with flow regulation as an operational problem.

We are being asked by the Bureau of the Budget right now how the Federal agencies plan to deal with a number of knotty problems which have arisen during the past three years and, more specifically, those which are likely to arise as soon as storage becomes available. You can readily see that if Uncle Sam foots the bill for this sizable program, he is going to be more than a little interested in how it is going to be carried out.

We do have some experience to call upon, however, since several projects were authorized 25 years ago to include water quality control storage. These projects located in Kansas and Ohio have performed as expected so we feel quite confident that such a program will be a welcome addition to the kit of tools available to meet our water quality goals.

I shall not describe those problems in detail, but I will be pleased to sit down with a committee or group in a back-room session and lay them out.

I cannot depart without one more word about fitting the flow regulation concept into a broader program of long-range planning to prevent water quality degradation. The work on the 140 reservoirs has been done as a part of individual project evaluations at the request of the Federal construction agencies. Although the expected benefits from this pattern are high, we are quite certain that far greater benefits will result as streamflow regulation is considered in a context of basin-wide water pollution control. We are moving from the passive to the active as we define the need for and value of quality storage as part of the development of comprehensive water pollution control programs. We believe these programs will enable the water pollution control people to systematize the operation so that really efficient use can be attained from the releases.

Thank you.

THE ASSOCIATION OF STATE AND INTERSTATE WATER POLLUTION CONTROL ADMINISTRATORS

CONSTITUTION AND BY-LAWS

CONSTITUTION
Preamble

It is recognized that there are governmental and other agencies, associations, and organizations that have a jurisdictional and allied interest in water pollution control.

It is hereby declared to be the policy of the Association created by this Constitution to cooperate with those other public and private agencies that have an interest in water pollution control and to provide in this Constitution the authorization for cooperation, and other activities of mutual interest.

ARTICLE I

Section 1. The name of this organization shall be the Association of State and Interstate Water Pollution Control Administrators, hereinafter called the "Association."

Section 2. The Association shall be incorporated as a nonprofit organization under the laws of the State of Delaware.

Section 3. Definitions.
a. "Water Pollution Control Agency" shall mean that state or territorial agency designated by state law or by the Governor that is legally responsible for the prevention, abatement, and the control of water pollution.
b. Interstate-water-pollution control agency shall mean an agency created by an interstate compact that has been approved by Congress, or by state enacted reciprocal legislation and that is responsible for coordinating the efforts of two or more states for the prevention, abatement and control of water pollution.
c. "Water Pollution Control Administrator" shall be that person who is designated by his agency as responsible for the administration of a state, a territorial or an interstate water pollution control agency.

ARTICLE II

Objectives
To consider the mutual problems and activities involved in the administration of a state or interstate water pollution control agency and to promote coordination of water pollution control programs among such agencies. Among the areas of interest are the establishment of objectives, principles and guiding policies in such administration, standards, interstate problems, personnel, budgets, legislation, and any other considerations that are administrative as contrasted to the purely technical.

ARTICLE III

Membership

There shall be only one class of members. Membership shall consist of one person from each state water pollution control agency and one person from each interstate water pollution control agency and this person shall be the one who is the administrator of the state or interstate water pollution control agency. All members shall be eligible to vote on all issues, hold offices, and serve on all committees. In the event of the inability of a member to attend a meeting of the Association, he may designate in writing to the President a proxy from his state or agency.

ARTICLE IV

Dues

Annual dues shall be $5.00 and payable at the start of each calendar year.

ARTICLE V

Section 1. Administration

The business and affairs of the Association shall be administered by a Board of Direction hereinafter called the "Board". Within the provisions of this Constitution, the Board shall have the full authority and power of the Association between annual meetings.

Section 2.

The Board shall consist of nine members comprised of the President, two Vice-Presidents, the Secretary-Treasurer, the immediate Past President, and four elected members. Each of these four elected Board members shall represent a state or interstate agency from one of the regions herein later described, shall reside in the region represented and shall be elected by the members in that particular region. Each Board member shall be entitled to one vote. Five members of the Board will constitute a quorum to conduct the business of the Board.

ARTICLE VI

Section 1. Officers

The officers of the Association shall be the President, two Vice-Presidents, the Secretary-Treasurer.

(a) The President and the two Vice-Presidents (a First and Second Vice-President) shall be elected for one year and shall all be from different regions.

(b) The Secretary-Treasurer shall be one person and shall be elected for a term of two years and shall be from a region different from the President and Vice-Presidents.

(c) The four elected Board members shall be elected for one year and each from a different region.

Section 2.

To be eligible for nomination, election or re-election to an elective office of the Association, a member shall be in good standing. No member may hold two elected positions on the Board simultaneously.

Section 3.

The Secretary-Treasurer shall be bonded as determined by the Board.

Section 4.

No member of the Board shall receive a salary or compensation except for such expenses as may be incurred in behalf of the Association which must be approved by the Board.

Section 5.

Fees and expenses of persons serving the Association shall be allowed at the discretion of the Board.

Section 6.

In the event the office of the President becomes vacant or the President is unable to serve, the First Vice-President shall become President and the office of the First Vice-President shall remain vacant for the unexpired term. All other vacancies in the elected offices shall be filled for the unexpired term by appointment by the Board.

Section 7.

Duties of the officers shall be defined in the By-Laws.

ARTICLE VII

Section 1. Nomination and Election of Officers

The Nominating Committee shall be as defined in the By-Laws.

Section 2.

Nominations shall be made for each elective office and no member of the Nominating Committee shall be eligible for nomination by the Committee.

Section 3.

Nominations and election procedures shall be carried out in accordance with the provisions of the By-Laws.

Section 4.

Nominations by the Nominating Committee or by petitions must be made with the consent of the nominee or nominees.

ARTICLE VIII

Functional Sections
Section 1.

The Board of Direction may authorize the establishment of functional sections comprising members having common administrative problems and interests, to operate under the Constitution and By-Laws of the Association.

Section 2.

The scope of activities and sphere of interest of each such section as set forth in the functional section Constitution and By-Laws shall be submitted in writing to the Board of Direction for approval.

ARTICLE IX

Committees
Section 1.

Administrative committees, standing committees, and special committees shall be appointed by the President subject to the approval of the Board.

Section 2.

The duties of the administrative and standing committees shall be as defined by the By-Laws.

ARTICLE X

Headquarters

The location of the headquarters of this Association shall be determined by the Board.

ARTICLE XI

Regions

There will be four regions from which a member shall be elected to the Board or appointed as a member of the Nominating Committee or whenever regional representatives are appointed, or otherwise elected. These regions will be known as the Northeast, Southeast, Northwest, and Southwest Regions. The Northeast Region will consist of those states east of the Mississippi River and generally north of the Ohio River. The Southeast Region will consist of those states east of the Mississippi River and generally south of the Ohio River. The Northwest Region will consist of those states west of the Mississippi River and generally north of the States of Missouri, Kansas, New Mexico, Utah, Nevada, and California. The Southwest Region shall consist of those states west of the Mississippi River and in general south of the states of Iowa, Nebraska, Colorado, Utah, Idaho, and Oregon.

(The Northeastern states would be Wisconsin, Michigan, Illinois, Ohio, Indiana, Pennsylvania, New York, Vermont, New Hampshire, Connecticut, Maine, New Jersey, Rhode Island, Massachusetts, totalling 14. The Southeastern states would be Kentucky, West Virginia, Virginia, Maryland, District of Columbia, North Carolina, South Carolina, Tennessee, Mississippi, Alabama, Georgia, Florida, Delaware, totalling 12 states and the District of Columbia. The Southwestern states would be Louisiana, Arkansas, Oklahoma, Texas, New Mexico, Arizona, California, Hawaii, Missouri, Kansas, Utah, Nevada, totalling 12. The Northwestern states would be Alaska, Washington, Oregon, Idaho, Montana, Wyoming, North Dakota, South Dakota, Nebraska, Minnesota, Iowa, Colorado, totalling 12.)

The interstate agencies shall belong in the region where their home office is located.

ARTICLE XII

BY-LAWS

Section 1.

The Board shall adopt by-laws which shall govern all procedures under the Constitution including those of the Board and of the committees.

Section 2.

The by-laws may be amended by an affirmative vote of not less than two-thirds of all members of the Board, provided, however, that the text of a proposed amendment shall be furnished to each of the Board members at least thirty days before the meeting at which a vote on the amendment will be taken.

Section 3. Amendments

a. Amendments to the Constitution may be proposed by a majority of the Board or by a petition signed by not less than 12 members of this Association.

b. Proposed amendments to the Constitution shall be submitted together with a letter ballot to each active member at the time ballots are submitted for the annual election of officers.

c. An amendment shall be adopted only upon affirmative vote of the majority of the membership.

By-Laws 1. Meetings

a. Annual meetings of the Association shall be held at the time and place determined by the Board, and it shall be officially announced by the Secretary to the members at least two months preceding a meeting. Special meetings may be called at the discretion of the Board.

By-Laws 2. Nomination and Election Procedures

a. The Nominating Committee shall file its report for officers with the Secretary-Treasurer and it shall be furnished to all members at least 90 days prior to the annual meeting. Nominations by petitions signed by not less than 12 members shall be filed with the Secretary not less than 60 days prior to the annual meeting.

b. Letter ballots with envelopes for returning marked "ballot" shall be mailed not later than 30 days before the annual meeting to all active members. Provision shall be made on the ballot for write-in candidates for each office to be filled.

c. In order to be valid, ballots shall be returned to the Secretary in two sealed envelopes, the outer ballot envelope shall be marked "ballot" bearing the signature of the member; it shall be delivered to the tellers unopened.

d. The polls shall close 10 days preceding the annual meeting. The ballots shall be counted by not less than three tellers appointed by the President. The candidate receiving the largest number of votes shall be declared elected. In the case of a tie for any office, the active members attending the annual meeting shall elect the officer from the persons so tied.

By-Laws 3. Duties of Officers

a. The President and Secretary-Treasurer shall perform the duties pertaining to their offices. The president shall preside as Chairman of the Board of Direction and subject to approval of the Board shall appoint the committees as defined in these by-laws, and such other committees as the Board may deem necessary. He shall be an ex-officio member of all committees.

b. The First Vice-President shall preside in the absence of the President and shall be administrative head of the operations group of committees defined in these by-laws; the Second Vice-President shall be the administrative head of the public relations group of committees.

c. The Secretary-Treasurer shall be the custodian of the property of the Association and shall deliver such property to his successor. He shall present a report on the affairs of the Association office at the annual business meeting of the Association. He shall assure the proper recording of the proceedings and the discussions at the annual and special meetings, meetings of the Board of Direction and shall check to assure that copies of them are prepared and distributed to the Board.

He shall be ex officio librarian of the Association and as such shall collect and preserve all books, pamphlets, papers, and documents brought into the Association. He shall serve as the comptroller of the Association and as such shall countersign (in addition to the President's signature) all checks for expenditures, budgeted and approved by the Board of Direction. He shall be responsible for the accounts of the financial affairs of the Association and shall present an annual report of all receipts and disbursements at the annual meeting of the Association.

By-Laws 4. Business Procedures

a. All meetings of the Association shall be governed by "Robert's Rules of Order Revised."

b. The order of business shall be fixed by the Board of Direction.

By-Laws 5. Committees

Nominating Committee

The Nominating Committee for the election of Association Officers shall consist of five members, one member shall be the most immediate Past President, and the other four shall be appointed by the President and with the approval of the Board. All such appointed members of the Nominating Committee shall be from different regions. The Secretary-Treasurer shall notify the Committee of the offices to be filled.

Prepared by Appointed Constitution and By-Laws Committee

Original draft - Oct. 1962
Second draft - Nov. 1962
Third draft - Dec. 1962
Final draft - July 1964

Committee:

C. W. Klassen, Illinois - Chairman
Meredith Thompson, New York
W. T. Linton, South Carolina
A. H. Paessler, Virginia
David Smallhorst, Texas
Joseph C. Knox, New England IWPC Commission

ASSOCIATION OF STATE AND INTERSTATE WATER POLLUTION CONTROL ADMINISTRATORS

Denver Hilton Hotel
Denver, Colorado
December 9-10, 1964

RESOLUTION NO. 1

GRANTS FOR SPECIAL PROJECTS

WHEREAS, the construction of engineering works for water supply and pollution control requires preliminary research and engineering studies to insure not only efficient operation, but economical design and construction; and

WHEREAS, such projects are frequently very costly and are usually only undertaken by public bodies confronted with the need to find a solution to a local problem under the jurisdiction of the public body; and

WHEREAS, the development of solutions to special problems can be expected to entail unusually high costs because of the experimental nature of the research, development, and engineering involved; and

WHEREAS, it is in the highest public interest that the Federal Government assist municipalities, counties, sanitary districts, States, and interstate agencies, and other public bodies in developing works that would solve such special problems;

NOW THEREFORE, BE IT RESOLVED that the Association of State and Interstate Water Pollution Control Administrators does hereby recommend that Congress authorize grants to municipalities, counties, sanitary districts, States and interstate agencies and other public bodies for special studies, investigations, and projects of wide interest and application to the control of water pollution;

BE IT FURTHER RESOLVED, that this grant program consist of annual appropriations of $5 million in F.Y. 1966, $10 million in F.Y. 1967, $15 million in F.Y. 1968, and $20 million in F.Y. 1969 and 1970, with such grants to be provided on a matching basis with Federal participation not to exceed 50 percent of the overall costs of such projects.

BE IT FURTHER RESOLVED, that appropriations be approved by the appropriate State Agency.

PASSED

RESOLUTION NO. 2

CONSTRUCTION GRANTS

WHEREAS, the Sewage Treatment Construction Grants Program under Section 6 of the Federal Water Pollution Control Act has been very successful in stimulating the construction of needed sewage treatment works; and

WHEREAS, a large backlog of unmet needs remains which should be satisfied as soon as possible; and

WHEREAS, the larger sums of money available under the Accelerated Public Works and Water Pollution Control programs demonstrated that municipalities would respond to this incentive;

NOW, THEREFORE BE IT RESOLVED, that the Association of State and Interstate Water Pollution Control Administrators endorse and support an amendment to the Federal Water Pollution Control Act to:

A. Continue in effect the present Construction Grant Program.

B. Authorize an increase in annual appropriations from $100 million annually to $150 million in F.Y. 1966, $175 million in F.Y. 1967, and $200 million for F.Y.'s 1968 through 1970.

C. Increase the maximum grant ceiling for individual projects from $500,000.00 to $1,000,000.00.

D. Increase the maximum grant ceiling for multi-municipal projects from $2.4 million to $6 million.

E. Increase the percentage of Federal participation in a project.

PASSED

RESOLUTION NO. 3

TRAINING GRANTS

WHEREAS, the need for trained scientific engineering and technical personnel in all levels is a critical one in the field of water pollution control; and

WHEREAS, the Public Health Service under the Federal Water Pollution Control Act has administered a program of training grants to educational institutions to establish or expand grant level training programs in pollution control; and

WHEREAS, the effectiveness of this program in stimulating graduate training and numbers of trained personnel has been demonstrated; and

WHEREAS, there is still a critical need to increase training at the undergraduate and technician levels;

NOW, THEREFORE BE IT RESOLVED, that the Association of State and Interstate Water Pollution Control Administrators recommends that the Public Health Service extend its training assistance to undergraduate and technical level studies, and that additional training grant funds be provided for this purpose.

PASSED

RESOLUTION No. 4

STREAMFLOW AUGMENTATION

WHEREAS, it is widely recognized that streamflow regulation for water quality control will be necessary to supplement adequate waste treatment in protecting water quality in many of the Nation's rivers; and

WHEREAS, it has been suggested that every impoundment site be examined for its potential for a contribution to the maintenance of streamflows which are necessary to maintain water quality; and

WHEREAS, the Federal Water Pollution Control Act provides for the storage of water for streamflow regulation for water quality control; and

WHEREAS, it is generally acknowledged that the Federal Government plans and builds only a small part of total water impoundments in this country; and

WHEREAS, facilities constructed by private and public utilities and others are usually constructed with limited funds to serve limited purposes, and this usually precludes multipurpose development; and

WHEREAS, the obtaining of storage space in known Federal reservoirs by the Federal Government is not a new concept, as the Corps of Engineers is authorized under existing law to make contributions to known Federal projects for storage for flood control, and there are many examples of local-Federal cooperation of storage for flood control;

NOW, THEREFORE, BE IT RESOLVED, that the Association of State and Interstate Water Pollution Control Administrators recommends that Congress enact legislation that would authorize the Secretary,

Department of Health, Education, and Welfare, under the Federal Water Pollution Control Act to make grants to States, municipalities, private utilities, and other public agency-sponsored researchers for low flow regulation for water quality improvement purposes.

FURTHER, this Association does hereby memorialize the Congress that cost for each project shall not exceed the cost of low flow regulation requirements determined as a part of a comprehensive water quality control plan of a river basin.

PASSED

RESOLUTION NO. 5

GRANTS FOR DEVELOPMENT OF NEW METHODS FOR CONTROL OF DISCHARGES FROM COMBINED SEWER SYSTEMS

WHEREAS, approximately 60 million people in some 2,000 communities throughout the Nation are served by combined sewers and combinations of combined and separate sewer systems; and,

WHEREAS, stormwater and combined sewer overflows are responsible for significant amounts of polluting material in the Nation's receiving waters and represent one of the most difficult pollution problems confronting our urban areas today; and,

WHEREAS, major expenditures will be required to develop and demonstrate effective means of providing for separation of sewers or otherwise controlling such pollution; and,

WHEREAS, a program for the acquisition of actual design, construction and performance data would represent an effective means of initially attacking this problem as well as providing information for future solution on a national basis;

NOW, THEREFORE BE IT RESOLVED, that the Association of State and Interstate Water Pollution Control Administrators supports a program for Federal demonstration grants for the development of new and improved methods for controlling the discharge of sewage and stormwater combined sewer systems;

BE IT FURTHER RESOLVED, that this grant program consists of annual appropriations of at least $20 million starting in F.Y. 1966 and continuing through F.Y. 1970. Such grants should be provided to municipalities, special districts and other public bodies on a matching basis with Federal participation limited to 50% and no grant shall exceed 5% of the amount of funds authorized in any one fiscal year.

PASSED

RESOLUTION NO. 6

PROGRAM GRANTS

WHEREAS, Section 5 (a) of the Federal Water Pollution Control Act authorizes the annual appropriation of $5 million to June 30, 1968 for grants to States and interstate agencies to assist in meeting costs of establishing and maintaining adequate measures for prevention and control of water pollution; and

WHEREAS, it is the intent of the legislation that the Federal Government through such grants share the State and interstate water pollution control program expenses on an approximately 50 percent basis over-all; and

WHEREAS, under the $5 million limitation now provided for in the Act the Federal contribution to State and interstate water pollution control program expenses amount to less than a third contribution overall; and

WHEREAS, $5 million in Federal funds appropriated in 1964 for water pollution control program grants under the authorization and limitations of Section 5 of the Act was not sufficient to meet the States' entitlements and appropriated matching funds for such grants; and

WHEREAS, it is essential both from an individual health and a national interest standpoint that State and interstate agencies strengthen and expand their water pollution control programs;

NOW, THEREFORE BE IT RESOLVED, that the Association of State and Interstate Water Pollution Control Administrators does hereby recommend that the Congress increase the authorization for annual appropriations for grants to States and interstate agencies to assist in meeting costs of establishing and maintaining adequate measures for prevention and control of water pollution under Section 5 (a) of the Federal Water Pollution Control Act from $5 million to $15 million.

PASSED

RESOLUTION NO. 7

SEWAGE WORKS FINANCING

WHEREAS, water pollution control and maintenance of water quality will present increasing problems in the next 20 years as the Nation's rapid growth of population continues;

WHEREAS, these problems are manifest in the timing of construction of sewers and sewage treatment facilities to provide service in anticipation of need and to prevent the development of pollution in receiving streams;

WHEREAS, the major difficulty associated with such problems is in the area of finance and ranges from the responsibility of providing funds, the methods of doing so, inadequacies of current authorized methods, through an inability on occasion to deal with serious situations because of inability to develop necessary funding;

WHEREAS, there appears to be some need for the Nation to devote the same concepts of financing to water pollution control as has been given to meeting requirements for public roads and public schools;

NOW, THEREFORE BE IT RESOLVED, that the Association of State and Interstate Water Pollution Control Administrators recommend that the U.S. Public Health Service initiate a broadscale study of the current patterns of programs for the financing of sewage works with a determination of their adequacy to meet current needs;

BE IT FURTHER RESOLVED, that such study give consideration to the development of new concepts of sewage works financing as need may be indicated for meeting requirements of the next 20 years.

PASSED

RESOLUTION NO. 8

FEDERAL WATER POLLUTION CONTROL

WHEREAS, the 88th Congress considered major amendments to the existing Federal Water Pollution Control Act, said amendments generally referred to as S. 649; and

WHEREAS, the 1964 meeting of the State and Interstate Water Pollution Control Administrators has taken cognizance of this proposed legislation;

NOW, THEREFORE BE IT RESOLVED, that the SIWPCA reaffirm its basic position that;

1. There is no need in federal law for additional provisions relating to standards for water quality.

2. Discharges of sewage and other wastes from federal installations should be required to meet the same standards and requirements as similar discharges from municipal or private sources.

3. The existing program should be held together and elevated in stature within the U.S. Public Health Service administration.

PASSED

RESOLUTION NO. 9

PROPOSED COMMITTEE TO CONTROL POLLUTION RESULTING FROM WASTE DISCHARGES FROM FEDERALLY OWNED OR OPERATED ESTABLISHMENTS

PREFACE:

When used in this resolution the terms listed below shall have the following meanings:

"State agency"--The recognized state water pollution control regulatory agency.

"Interstate agency"--An official interstate water pollution control agency.

"Municipal agency"--The agency of any municipality having jurisdiction and control over any waters into which waste matter is discharged.

WHEREAS, the United States Government has established a policy requiring all federal departments and agencies to cooperate with the Department of Health, Education, and Welfare, and with the appropriate state, interstate, or municipal agencies for the purpose of preventing and controlling pollution from federally owned or operated establishments; and

WHEREAS, experiences in dealing with waste disposal policies and practices from federal installations within the jurisdiction of local, state or interstate water pollution control agencies has in some instances indicated a need for clarification on the federal level; and

WHEREAS, the United States Public Health Service for many years has acted efficiently in a liaison capacity with regard to local, state, and interstate-federal relationships in the field of public health and water pollution control, it is logical that the United States Public Health Service be the federal agency which should be designated as the agency responsible for the development of definite policies and procedures to assure closer local, state and interstate and federal coordination with regard to waste discharges from federally owned and operated establishments; and

WHEREAS, the United States Public Health Service is the logical agency within the Department of Health, Education, and Welfare to administer a program designed to promote such cooperation to the fullest possible degree; and

WHEREAS, the United States Public Health Service is the logical agency to serve in a liaison capacity between any state, interstate, or municipal agency and the federal department or agency owning or operating any establishment from which waste matter is discharged to waters under the jurisdiction or control of any of the said agencies; and

WHEREAS, to assure proper control of pollution problems resulting from federally owned or operated establishments there needs to be close coordination between the federal government and the appropriate state, interstate, or municipal agency having jurisdiction over the affected waters; and

WHEREAS, such coordination should be developed through a definite well planned working arrangement which would be mutually satisfactory to all concerned;

NOW, THEREFORE BE IT RESOLVED:

1. That, this Association appoint a committee of not less than three members to cooperate with the United States Public Health Service in the development of such a definite working arrangement; and

2. That, such committee shall include one engineer representative of a State Health Department, one engineer representative of a state agency outside the framework of a State Health Department, and one engineer representative of an interstate agency; and

3. That, there be invited to serve with such committee some engineer representative of a municipal agency having jurisdiction or control over local receiving waters; and

4. That, the Surgeon General of the United States Public Health Service be requested by this Association to designate one or more of his engineers to work with this committee in the development of such an arrangement; and

5. That, this committee make progress reports to the Executive Committee of this Association and further, that this working arrangement be culminated at the earliest practicable time, in view of the need of such an understanding to assure the progress of the water pollution control program of the States.

PASSED